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DID CLINICAL SPECIALIZATION ANTICIPATE SCIENTIFIC MEDICINE?*

THE ANNUAL ORATION

EDWARD H. CARY, M. D.
DALLAS, TEXAS

The title of this paper, "Did Clinical Specialization Anticipate Scientific Medicine?" was formulated with the thought in mind that it would be a simple task to show that human beings have been quick to reach conclusions and have often succeeded in naming their specialty, classifying it, and having themselves accepted in the literature before there was unfolded scientific data sufficiently accurate to justify such designation! This is true if one desires to be entirely technical as to classified knowledge.

History records that in the older civilizations which had merit, medical labors were considerably divided. You are familiar with the early history of the Egyptian physicians (before Christ) who were committed to specialization. They carried specialization into their practice to such an extent that the body as a whole was completely lost sight of. Many of the modern papers dealing with the early history of medicine refer to physicians of ancient Greece, who, according to Socrates, were "ignorant of the whole, which ought to be studied also, for the part can never be well unless the whole is well."

However, what I may say must not be interpreted as a failure to answer the question, until modern medicine, and what we concede makes it scientific, has been taken into consideration.

The inventive genius of man, over a long period of time, has here and there developed special instruments for special service, which opened wide the way for further development of the extensive knowledge which came about in the many fields of medicine. Much of this came from the enthusiasm of so-called specialists.

Scientific knowledge which we possess is the result of accumulated mental effort of many men, which has been correlated to make a fairly complete pattern. Individual accomplishment, although frequently small in itself, has been stimulating; finally, constituting a factor of really great value when interrelated by minds, broader, better and capable of harmonizing the contributions from all sources into classified knowledge. This statement seemingly would apply to the lowliest personal effort, as well as to the magnificent accomplishment of the vast field of workers as they search for the truth, utilizing all knowledge for this purpose.

Adverting to the inventive genius of man, we may refer to the microscope, invented by the Janssens in 1590. It was used early in the seventeenth century by the Jesuit priest, Kircher, for studying disease, and by Swammerdam before he studied medicine for the purpose of dissection. You will recall, however, it was Leeuwenhoek, a draper and city hall janitor, who, in 1674, used his own microscope and lens to describe the spermatozoa; who gave the first complete account of the red blood corpuscles and discovered the structure of the crystalline lens.

Leeuwenhoek also demonstrated the capillary anastomosis between the arteries and veins, which Malpighi had already seen in 1660 without attaching great importance thereto. Malpighi's discovery and Leeuwenhoek's thorough work on the capillary circulation finally completed William Harvey's earlier demonstration. Further scientific contribution was made by Leeuwenhoek in papers sent to the Royal Society and French Academy of Sciences. Had he been a physician, understanding the ethics of medicine and imbued with true professional idealism, in all probability his work in microscopy would have been accepted. A different emphasis would have been placed upon the results of his labors, and almost two centuries would have been gained in developing the general use of an instrument, which eventually helped create new specialties in medicine.

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society, May 3, 1938, at New Orleans.

Malpighi, contemporary of Leeuwenhoek, is seemingly credited with being the father of histology; the term "histologist," however, did not appear in English literature until 1859. We all know there was a vast hiatus in time in the correct interpretation of the microscopic world, which was partially observed by these men, but which required the passing of a century or two before such observations could be classified as a specialty in medicine.

Von Gleichen first stained bacteria in 1778 but this art was not quickly developed. It was left to Koch and others to develop staining processes and discoveries which finally justified the specialty of bacteriology.

Weir Mitchell relates that Galileo in 1557, invented a rude thermometer or thermoscope and as early as 1600 Kepler used pulse counting to time his astronomic observations. Laennec invented the stethoscope in 1819. The first thermometers to appear in the English hospitals about 1867 were large and slow to register. They came into general use largely through the effort of Wunderlich, whose treatise on the relations of animal heat in disease brought clinical thermometry to the fore. Medical men were then able to differentiate the sounds of the human organs with the stethoscope as well as determine the temperature of the body in a scientific manner. The foregoing justified the appearance of the term "clinician" in 1875.

In 1849, James Marion Sims invented the vaginal speculum. Failure to bring relief to patients with vesicovaginal fistula had for years been a great stumbling block in this field of practice. Sims had done operative work among the negro women of Alabama with astonishingly good results. One day he was called to see a country woman who had sustained a displacement of the uterus from a fall from a horse. In making a digital examination to correct the displacement, the surgeon hit upon the peculiar lateral posture (now known as Sims' position) and invented the special curved speculum, which were the two factors underlying his success in operating for vesicovaginal fistula. This gifted surgeon made it possible for the specialty of gynecology to find its place in the literature in 1872.

The astronomists and physicists played an important part in the early development of the physical theory of vision, with their observations of the retina, and the part the lens plays in refraction. Mariotte proved that a luminous eye is due to reflection of light. He also discovered the blind spot in the retina. The term "ophthalmist" appeared in the literature in 1696; "ophthalmologist," in 1834. This specialty in medicine was not on a sound basis, however, until the invention of the ophthalmoscope by Helmholtz in 1851, with which one could see the background of the eye. Physicians listed as ophthalmologists after 1851 had something which gave their clinical observations a degree of exactness, all of which brought about classified knowledge and definitely determined a special field of medicine.

The term "bronchotomist" was used in the English language as early as 1670; the term "aurist" appeared in 1678; "rhinologist," 1838. The laryngoscope, invented in 1855 by Manuel Garcia, was evidently first used by the aurist and rhinologist, although the term "laryngologist" did not reach the literature until 1871.

Pasteur's contribution during approximately this same period is well known. To the great Englishman, Lister, belongs the credit for antiseptic surgery, which was the outgrowth of Pasteur's contribution and Lister's method of preventing sepsis. The term "surgeon" appeared in the English literature in 1338, but not until Lister's day was the idea of laudable pus dispelled. Antiseptic surgery had its limitations, therefore, reasonably soon there evolved the modern conception of aseptic surgery. All of which was essential before surgery could be correctly classified as a specialty in medicine. As knowledge has been acquired, surgery has been subdivided and we now have many surgical specialties.

The roentgen ray, discovered in 1895, opened a vast new field in medical science. Many specialties followed in the wake of this great scientific discovery, the individual classifications being based upon the various uses of the roentgen ray. The first to gain recognition in the literature was the "radiographer" in 1896; the "radiodontist" in 1916. The "radiologist" and "roentgenologist" followed and now the "roentgenotherapist" is knocking at the door and probably will appear in the literature as such.

The invention of the bronchoscope in 1898, brought about, logically, the development of a new specialty. However, we must not think of the present day bronchoscopist as being necessarily related to the bronchotomist in 1670. May I quote G. Thompson, "I doubt not the time will come that phlebotomist will be looked upon little better than a bronchotomist, a cut throat." In 1904, the respiratory calorimeter came to the aid in the accuracy of diagnosis; so came the electrocardiograph and many other instruments.

It can be truly said that with each invention, there came an increase in medical knowledge, which brought further development, through intensive study by those who had technical aptitude. Increasing knowledge in the physical sciences has constituted the urge which has forced the development of clinical medicine along more correct lines. Knowledge being, as it is, interrelated, each new discovery moves the army of workers a step forward to more solid ground, and thus more firmly establishes humanity's debt to science.

The title "family physician" was first used in 1225, although the word "physician" appears in Genesis: (chapter 50, verse 2) "And Joseph commanded his servants, the physicians, to embalm his father, and the physicians embalmed Israel."

The study of a chart where the specialists in medical practice radiate around the family physician is extremely interesting. Black says that of the number of specialists he has been able to list, 28 were brought into the literature prior to the first of the nineteenth century, and 114 after that time, although we must remember, there are a number of moderns who have not yet been accorded a place in the literature.

Like the Egyptians, we are confronted with a breakdown of the human body, which will create a vast number of new specialists. We are forced to concede, however, in our day there is justification for most of them. For example, the endocrinologist, whose work has been based upon numerous clinical and pathologic observations, has been given recognition. It is true this practitioner is often unable to explain the function and always recognize the pathology of many of the glands which come under his specialty. But, knowledge of the glandular system has been greatly increased through the interest of workers who have devoted their lives and efforts for better comprehension of this particular part of the body in relation to the whole.

Today we can say endocrine gland research, nutrition, physical chemistry, immunology, metabolic physiology and psychology are commanding the attention of many brilliant men, who justify the appellation of specialist.

Adverting to the subject, "Did Clinical Specialization Anticipate Scientific Medicine?" naturally raises the question, "When did scientific medicine begin?" I have shown how the inventive genius of men, applied to instrumentation, has helped rapidly to evolve better understanding of the sciences, which eventuated into scientific medical practices. However, the day of scientific medicine is very generally understood to have followed the days of Pasteur, Lister, Koch and others who advanced medical knowledge through their masterly contributions. A great day, yes—but think of what has followed!

Blakeslee refers to an address of a great man of medicine, William Henry Welch, as painting a picture of medical men, reaching out to all the other sciences for aid; as traveling in cycles, sometimes to one field of medicine, sometimes to another, but always, in the end, returning to the advice of Hippocrates, to assay the facts in his own clinical field.

This method has had its corollary in the creation of a great medical organization, which movement was motivated in a school of experience. Through our medical societies, big and little, we nurture the underlying motif of acquiring and contributing medical knowledge; we know that such educational opportunities have been consistently brought to every understanding and ambitious physician. The older specialists, well trained in youth, ambitious and erudite throughout their lives, remain to this good hour the leaders of their respective subdivisions of medicine. Older specialists who received special training and those who did not, who have been ambitious and studious, are the masters. They are the leaders who have brought medical education to this new day, wherein younger men may have the advantage of an educational system which naturally requires more of him before he may begin his life work. All of which redounds to the glory of the leaders of the immediate past and present.

Forty years ago the requisites of specialism were well understood, but few physicians voluntarily equipped themselves. Competition within the profession has now become such that a young man would be foolhardy to enter the contest without extensive preparation. Those of us who have been engaged in the educational field throughout this period of medical improvement realize that high standards for entrance into our medical schools and rigid demands of the faculty, do not deter, but instead stimulate, the desire of ambitious students to become physicians.

The future yields always to educational influences; hence, I call attention again to the fact that the prospective student of medicine now knows before entering college, that he faces at least three years of preliminary medical training, four years in the undergraduate medical school; and that hospital internship is an essential part of his medical preparation, so that he can go into general practice and later into a special hospital for that training which is so necessary to prepare him for special work. Interns should have the benefit of an association with a well selected and serious minded staff that recognizes the responsibility of the education of the intern.

In this connection, one would naturally think postgraduate teaching could best be done in universities with properly organized departments, which are endowed with large clinical resources. While this is largely true, slightly digressing, I would like to mention the practical demonstration of an appreciation of the enthusiastic clinician versus the full-time teacher. In one of our universities, there is opportunity for Junior and Senior students to remain in the hands of full-time paid teachers who have not the clinical urge, or to choose an equally important part of the university, where there are great clinical teachers; men engaged in active practice, interested not only in the application of the science but in the art of medicine as well. I was informed that 90 per cent of the student body in their Junior and Senior year chose the set up where the practical and enthusiastic clinician continued his labors. How fortunate are we in having the benefit of all in our societies.

Undoubtedly the hospital, with an active enthusiastic staff, which appreciates its opportunities for teaching, is after all, the best place to train specialists. The specialist should not be a technician nor wholly an operator.

Weiskotten made a survey of medical college graduates for 1915, 1920 and 1925, who had limited or planned to limit their practice. The results showed that 70 per cent of the total number of graduates each year would eventually engage in special practice. Surgery, internal medicine, and eye, ear, nose and throat practice comprised 60 per cent of the total special practice in 1915. In 1925 these had decreased to 51 per cent, the eye, ear, nose and throat specialty showing the greatest decrease. In February, 1937, there were approximately 55,000 medical men listed practicing 25 specialties.

The World War had a very definite influence upon medical specialism. Medical men uprooted, oftentimes were assigned to special service and from that time remained in the practice of that specialty. There have also been numerous additions from the men who formerly practiced in small communities and who for economic and other reasons became specialists.

Evaluating agencies for checking the work of the new recruits and to encourage higher standards for all became a necessity. There are now about sixteen cooperating boards which certify the qualifications of medical specialists. Standards set by the boards of various specialties should be understood by every student of medicine, particularly those who contemplate special practice. It should and will be increasingly difficult to gain recognition in medical circles unless the minimum standards of the boards are met.

The future status of medicine and medical specialism depends upon how broadly we impart our conception of service and how much education we deem essential. Jackson has said that 92 per cent of ophthalmology as represented today, has come into human knowledge within the past century. I may say that most of it has come during the past half century. No doubt this is true of otolaryngology and certainly the period of time is far less for most of the specialties.

Naturally, there have been and will continue to be changes in conceptions, attitudes and practices. We must always be progressively open-minded, although remembering that there is little that is new, but much to be gained in the application of a newer mental slant here and there; thus revealing the truth which leads to the alleviation of human suffering.

It would be difficult to conceive of many more terms used for designating specialties than we now have in the literature, plus those terms which are being utilized by groups but which are not yet accepted.

On the other hand, we are apparently on the verge of vast discoveries. Chemistry alone gives an interesting example. Recently Francis Carter Wood of Columbia University was quoted as saying: "I think the future in general medicine points toward great extension in chemistry of a type which has synthesized sex hormones, the carcinogenic substances, and the vitamins. The interaction between these various substances and the organs of internal secretion make an astonishing picture which we are just beginning to unravel."

Irrespective of the many discoveries and long lists of triumphs in the field of chemistry, there has developed, in a larger way, that basis for progress, which has existed when the better type clinician utilized the great chemist. Always chemistry has played an important part in the practice of medicine, but the subject has become far too complex to be thoroughly understood by even highly trained medical men. The interest of the modern doctor in cooperative work is more widespread now and undoubtedly the practice of medicine will be tremendously influenced by the utilization of those remedies which are becoming a part of the practitioner's armamentarium.

It has been said, in a paper by William Sunderman, "At the dawn of the modern scientific era no distinction was made between the physician and the chemist. Even in the confused period of alchemical delusion, chemistry was cultivated almost exclusively by physicians. They considered it a 'high and sacred art—an art proper to be known and practiced only by the pure, the benevolent, the learned and the wise.' The tyranny of superstition in this period was broken when Paracelsus, a physician and chemist, vigorously denounced the idea of transmutation of elements through processes of magic and necromancy and declared that the real purpose of chemistry 'was not to make gold but prepare medicines.' "

Sunderman's paper continues: "An important responsibility of the biochemistry laboratory is in the training of practicing physicians, interns and technicians. It almost goes without saying that an individual who has learned for himself a method of analysis is, as a consequence, better able to judge of its value and significance."

An address of Horlein's on "Medicine and Chemistry" is extremely worthwhile. He describes the discovery of many interesting chemical products which are of tremendous value to humanity, most of which were based upon some observation of clinical nature.

For instance, in 1897, Eijkman, physician to a prison hospital in Java, noticed the occurrence of a disease among the hospital fowl which had remarkable resemblance to the beriberi among his patients. Through his study of this phenomena, he discovered a complete experimental method of producing beri-beri and for the evaluation of the different foods in their relation to this disease. Later, with the results of feeding experiments carried out by Stepp and Hopkins it became a matter of general scientific knowledge that in addition to the hitherto known chief nutrients and salts, there existed other unknown substances, absolutely essential to animal growth and welfare. The chemist, Casimir Funk, then made an important announcement that he had isolated from rice cortex a substance of a basic nature which had an intense action in experimental beri-beri of pigeons and to which he therefore gave the name vitamin. Owing to this discovery by Funk, the interest of chemists over the whole world has been directed to these vital infinitesimal constituents of food.

I do not propose to follow the development of our knowledge of vitamins, but it is interesting to note the cooperative effort on the part of the clinician and chemist.

Somewhat analogous is the recent isolation of a chemical substance from the pituitary body, which concerns lactation and mother instinct. Here the chemist and obstetrician join hands.

Then, to those of you who have lived in Louisiana where malaria has played such a definite part in the economy of the state, the deficiencies of quinine became apparent. Bacteriologic studies, clinical reactions, and chemical evolution brought about vast changes in the treatment of this terrible scourge. Quinine, plasmochin, and finally atabrine became known for their curative values under certain conditions. This trinity of chemical discoveries certainly means a great deal to the people of the South.

Another interesting phase of biochemistry is intercellular exchange. In the words of Israel Bram, "All our thoughts and actions are the result of intercellular chemical exchange—a veritable give and take of known and unknown secretions and excretions and the ductless glands acting as regulators of this exchange of chemicals with the thyroid gland at the helm."

This has been a valuable conception because it has opened to the inquiring mind broader fields for research. To illustrate, the imbalance of an abnormal person is oftentimes traceable to a lack of some of the necessary substances; for example, iodine. There are many clinical phases presented in the patient of a decreased amount circulating in the blood and body fluids. The normal content of iodine, which is one-sixth-billionth per cent of the fluids, cannot vary a great deal without clinical manifestation on one side or the other, either a hyperfunctioning goiter or as the hypofunctioning gland of the cretin, or many other minor degrees of imbalance which may not be expressed by these extremes.

Time forbids that I go further into this phase of science, or to take up any other of the numerous fruitful divisions of medicine.

In conclusion, I may say we look forward to increasing contributions in many fields, well-dotted with specialists, which suggests that clinical specialization has anticipated an ever-growing, broadening, scientific medicine.

MEMORIAL ADDRESS*

DANIEL N. SILVERMAN, M. D.
NEW ORLEANS

Of course, this is no time for frivolity, but I can assure you that had I been requested to make an address of this type on such an auspicious occasion, I would have thought a while, hesitated, and perhaps answered "No"; but, under the circumstances as explained by our President, I was merely commanded to do so, and had to obey as I did when I was a boy with Dr. Horton in our home town many years ago.

At this time, which marks the opening of the 59th annual session of the Louisiana State Medical Society, we are witnessing perhaps the greatest demonstration of scientific accomplishment in the history of the Society. The papers to be presented and the scientific exhibits illustrate the hours and days of labor by which the advancement and the progress of medicine have been achieved. We will derive a great deal of information from these papers and exhibits, but they represent only the visible stepping stones. There are others, which we must not forget, which were built upon the hard work and upon the untiring devotion to the benefit of humanity of those who have passed away.

Among the men who have reached their journey's end during the past year, a number were pioneers in original work in medical research; others promulgated certain theories, advanced facts; others toiled in rural sections and gave their days and nights, in all types of weather, to alleviate human suffering. Their work was well done. We might say we are satisfied as to their recompense in the words of Michael Angelo, "If life serves us well, we ought not to be grieved by death, because it comes from the same Giver."

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*Presented before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 2, 1938, at New Orleans.

I now have the sad privilege of reading a list of the names of those men who have left our midst during the past year:

Hezzie Donice Bulloch, Covington, January 31, 1938.

Guy Andrew Darcantel, White Castle, December 20, 1937.

Wilson Joseph Eroche, Raceland, December 15, 1937.

John James Gill, Chatham, February 23, 1938.

S. Dugan Graves, Bastrop.

M. David Haspel, New Orleans, June 26, 1937.

Edward S. Hatch, New Orleans, October 20, 1937.

Joseph N. Hood, Monroe, August 16, 1937.

Isaac Ivan Lemann, New Orleans, September 2, 1937.

James Leon Lewis, New Orleans, November 17, 1937.

John Wm. Lindner, New Orleans, July 17, 1937.

John Sherwood McBride, Ansley, September 13, 1937.

Leopold Mitchell, New Orleans, September 1, 1937.

Pope Webb Oden, Shreveport, June 28, 1937.

Joseph Odess Prejean, Abbeville, November 2, 1937.

George Patrick Quinn, Shreveport, February 1, 1938.

J. W. Kenward Shaw, New Iberia, February 13, 1938.

George W. Sitman, Baton Rouge, June 16, 1937.

James Frank Smith, Leesville, July 3, 1937.

Russell Edward Stone, New Orleans, June 18, 1937.

George Edgar Stovall, Columbia, June 23, 1937.

Anatole Raoul Trahan, Lafayette, December 2, 1937.

Charles A. Wallbillich, New Orleans, February 10, 1938.

Wilbur William Warner, Bogalusa.

Earl Aden Hogan, New Orleans, March 16, 1938.

I move that we stand in silent tribute to those men who have died during the year 1937-1938 since the last meeting of the Louisiana State Medical Society.

VENEREAL DISEASE*

A SYMPOSIUM

THE NECESSITY FOR PUBLIC COOPERATION IN THE CONTROL OF VENEREAL DISEASE

W. A. REED, M. D.
NEW ORLEANS

I am privileged to speak to you frankly and openly on the subject of venereal disease, a scourge which has existed from time immemorial, and which because of ignorance, taboo and fear, has filled more graves than all the combined wars since the beginning of time; a scourge that threatens to spread the scarlet letter of its presence across the very face of mankind, unless every means of defense of both the public and the medical world is firmly entrenched in this great line of battle.

It might seem on first thought that we, a great people in a great country, advanced as we are in the arts and sciences, and in medicine, have been unnecessarily slow in the recognition and control of venereal disease. Its universal existence has been well known for thousands of years, not, perhaps as we recognize it today, but at least for its contagiousness and destructiveness.

HISTORY

In the writings of the Chinese, which date back at least 35 centuries, one finds in the year 2637 B. C., a most accurate description of both gonorrhea and syphilis, a literal translation of which compares quite creditably with a description of these two diseases as found in many standard textbooks of only a few years ago.

In the fifteenth chapter of Leviticus in the Bible are two verses that without doubt refer to gonorrhea. Moses evidently was well aware of the contagiousness of the disease, since he insisted on the avoidance of contact with all articles worn and used by those infected, and even required that a full week elapse after being well, before one attend the sacrifice of atonement and resume his social functions. In the book of Genesis will be found a description of the plague that visited the house of Pharaoh shortly after Pharaoh had become enamoured with the beautiful Sarai, the wife of Abraham, following which, both Abraham and Sarai were banished from the country. This occurred about the year 1921 B. C.

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*Presented before the Louisiana State Medical Society, May 2, 1938, at New Orleans.

Again, you are all familiar with the story of King David, and his adventures with Beth Sheba, as found in the Psalms, and, some time later his mournful lamentations because of the aches and pains that tormented him which, as interpreted by the medical mind, could mean but one thing—syphilis. This episode occurred about 1034 B. C.

The "medicine ball," which is so familiar to all of you, and which is to be found in every gymnasium in the land, is named after the original medicine ball that was invented by the Persians about the year 1000 A. D. for the treatment of syphilis. History tells us that in those days the sport of tossing a mercury coated cannon ball from one patient to another was invented as a practical method of rubbing mercury into the skin for the treatment of those afflicted with the disease.

With the work of the great Pasteur, however, the darkness that shrouded the road of progress was swept away and we learned that disease is produced by microscopic germs, and not by vague undefined humors, spirits or curses, to be dispelled only by amulets, witchcraft or by the intonations of the medicine men.

Forward strides came in rapid succession. In 1831 the experiments of Ricord had already proved that syphilis was not merely an advanced stage of gonorrhea, as had been stated by Ambroise Pare two centuries before, but that the two diseases were separate and distinct from one another. In 1879, a little less than 60 years ago, Neisser discovered the gonococcus, the germ that causes gonorrhea, and only 33 years ago Fritz Schaudin discovered the pale spirochete which causes syphilis. The following year Wassermann devised the delicate blood test that still bears his name, and 28 years ago Paul Ehrlich, in his six hundred and sixth experiment, compounded a preparation of arsenic that startled the entire world by its rapid action on syphilis, and which is still sometimes called "606" or salvarsan, and which, in a more refined state, is one of the principal drugs used in the treatment of the disease today.

Therefore it is easy to see that, although venereal disease was a major plague of mankind long before the erection of the Pyramids or the fall of Troy, we have been in a position to diagnose correctly and properly treat it for only the very short period of slightly more than a quarter of a century.

EXTENT OF INFECTION

To appreciate fully the seriousness of the problem that confronts us one must realize that at least ten million people in the United States now have or have had syphilis. Each year almost a million new cases are added to this huge number. It attacks four times as many persons as scarlet fever or tuberculosis, ten times as many as diphtheria, and one hundred times as many as infantile paralysis.

One out of every twelve pregnant women examined in fifteen clinics in various American cities were found to have syphilis, which is communicable to the unborn child. It is for this reason that 25,000 babies die each year from the same disease. In fully 95 per cent of such cases the birth of a healthy child can be assured providing the existence of the infection is found in the early months of pregnancy and appropriate treatment instituted.

Each year forty thousand deaths occur from syphilis of the heart and vascular system. There are 4,500 deaths from general paralysis of the insane and 1,200 deaths from tabes dorsalis, both of which are caused by a syphilitic inflammation of the nervous system. Since each death represents a loss of from 19 to 23 years of life expectancy, one may readily see that the toll that is being exacted by those three conditions alone amounts to almost one million years of productive happy living.

One of every seven cases of blindness results from syphilis for which ten million dollars is expended each year for institutional care. One out of every ten cases of insanity is caused by syphilis, most of which require private or state institutional care, and for the treatment of whom, it is estimated, more than 31 million dollars each year is being expended. Into these institutions more than 8,000 new admissions are being made every year.

During 1934 the National Safety Council reported that automobile accidents in this country resulted in 107,000 cases of permanent disability. Yet, during that same year, syphilis alone attacked and disabled more than a half million persons.

CONTROL IN OTHER COUNTRIES

Considerable progress has been made by a number of countries in lowering the prevalence of venereal disease during recent years. This is particularly so in Denmark, Sweden and Norway. However, there are still many foreign countries where the problem is even more serious than it is here.

A recent report by the Ministry of Public Health of France discloses some astounding facts. In that country alone 140,000 deaths occur each year, 20,000 of which are deaths at birth as a result of venereal disease. They further report that 84 per cent of congenital syphilitics die before the age of 10 years; 50 per cent of their criminals are congenital syphilitics; 50 per cent of sudden deaths and deaths due to disease of the heart and blood vessels are directly the result of syphilis; 40 per cent of all chronic hospital patients are suffering from syphilis; and 10 per cent of the entire general hospital mortality is directly or indirectly due to syphilis. In spite of this appalling report they, too, are securing results in their campaign against venereal diseases. In 1916, there were but 40 venereal clinics in the whole country at which time the prevalence of primary syphilis in the army was 21 cases for every 1000 soldiers, while in 1936, by which time 1821 clinics had been established, the incidence of primary syphilis among the soldiers had fallen to less than two cases per thousand men per year.

One might go on for hours citing facts and figures to impress upon you the fact that the control of venereal disease is equally as serious as the fight against tuberculosis, cancer, typhoid fever, malaria or any other disease to which the human race is heir.

We must not forget that the time is here, now, when the railroads and many of the larger industrial corporations are about to require that all employees be free of syphilis and gonorrhea in order to maintain their positions. Furthermore, practically all the large insurance companies, realizing the importance of syphilis with regard to life expectancy, have been giving serious thought to the necessity of requiring a negative blood test by each applicant for insurance before permitting him to take out a policy for more than $5000. My prediction is that, before many years, in order to secure an insurance policy of any size, such a blood test will be as necessary a part of the preliminary medical examination as the analysis of the urine for kidney disease, or the investigation of the heart and blood pressure for heart disease.

Fortunately, considerable progress has already been made in this gigantic struggle, through the efforts of the Venereal Disease Division of the U. S. Public Health Service, the American Social Hygiene Association, the American Neisserian Society, and, more recently, by the local boards of health of almost all the states of the Union. A short time ago the American Legion adopted resolutions for the combatting of venereal disease, and no longer ago than last year similar resolutions were passed by the American Youth Congress at its meeting in Milwaukee.

It therefore becomes necessary for us as a whole, laymen and doctors alike, to form a firm bond of alliance, in order that we may lure this monster of venereal disease from its lair and slay him with as great courage as the brave knight slew the seven-headed dragon of mythology.

To accomplish this end we must adopt and strictly adhere to a plan which might be outlined as follows: (1) Education of the public by enlisting the services of the many existing auxiliaries and lay organizations, public lectures, newspaper publicity, radio talks, moving pictures; (2) more complete instruction to students in public schools and universities; special courses to practicing physicians and in graduate medical schools; (3) more public health or hospital clinics for the free treatment of those who are not able to pay for medical services; (4) the performance of a routine Wassermann test on all patients entering a hospital, unless it has already been done at a recent previous date. This applies particularly to all expectant mothers; (5) the requirement of a general physical examination, as well as a blood test for syphilis, for both parties desiring to marry.

SUMMARY

When we begin to look upon both gonorrhea and syphilis as communicable diseases, rather than moral issues, and adopt such a plan as this, we can look forward to the payment of dividends beyond our fondest dreams, even to the lengthening of the present span of life to the ripe old age of eighty years or more.

If we permit prudery, ignorance, taboo and fear, the malignant four horsemen, who have so long served as a bodyguard for syphilis, to continue to ride across the face of this nation, we can most certainly look forward to the production of a race of weaklings, neurotics and morons, doomed to perish before the onslaughts of a more clearly thinking people.

THE PRESENT STATUS OF VENEREAL DISEASE CONTROL IN LOUISIANA

J. A. COLEMAN, M. D.
NEW ORLEANS

Today, social diseases constitute one of the world's greatest problems, and only recently have they been forced out in the open and given great publicity by even the lay press.

What do we mean by social, venereal or sexual disease? These expressions cover maladies which are usually spread or transmitted during sexual intercourse. In other words direct contact. In this group, there are three diseases: gonorrhea, syphilis and chancroid.

The most common, if not the most important of these is gonorrhea. I emphasize this disease in view of the levity associated with its discussion by the layman. Hence, the expression: "No worse than a bad cold!" Certainly, no greater error was ever made.

It is said that gonorrhea is three to six times more prevalent than syphilis and it is impossible to get accurate statistics on gonorrhea due to the fact that 80 per cent of the cases are treated by laymen. Much of the lack of knowledge, too, is due to the puritanical state of mind of some doctors. Too many doctors still believe that nobody has syphilis and gonorrhea except negroes, prostitutes and criminals. Too many doctors, surprising as it may seem, still think of syphilis and gonorrhea as "a disgrace" and not a "disease," and they hesitate to suggest the necessary steps for diagnosis lest the patient's feelings be wounded; and then, to protect his patient, the doctor fails to report the disease or the source of infection.

Syphilis is a curable disease—and 80 per cent of the cases can be cured if treatment is begun during the first year of infection and continued uninterruptedly for a sufficient length of time. The percentage of cures decreases as the duration of infection increases. But, even in later stages of syphilis, where cure is more difficult, the progress of the disease can be stopped; and many of the crippling manifestations—such as heart disease and insanity—can be prevented. The early case is the infectious case. Treatment in the early stages does two things: it renders the individual non-infectious and, if continued long enough, it cures him of the disease. By early syphilis is meant an infection of four years or less.

Treatment of early syphilis has been standardized. Every patient, to obtain a cure, must receive 30 injections of an arsenical compound and 40 of bismuth. This treatment must be given continuously, week after week, with no rest periods. This means 70 weeks of continuous treatment. Moreover, treatment must be by schedule and not by serologic reports.

The private physician plays the most important role in the control of syphilis, as well as in all health procedures.

There is no knowledge relative to when or where syphilis originated. In the history of communicable diseases, as compared with leprosy, smallpox, tuberculosis, malaria, and plague, syphilis is a new disease. Without doubt, it existed before the 15th century, but there is no exact record for the period prior to 1493 when the disease became recognized.

The intimate circle of friends of every person in America whether he thinks so or not, numbers one, two or more individuals who have syphilis. This disease causes more deaths every year than any other contagious disease of every kind, and beats all diseases of any kind excepting heart trouble, cancer, pneumonia and nephritis. The United States lost 126,000 soldiers during the World war; it loses more than 100,000 civilians every year from syphilis. These losses are only part of the sad history. Syphilis produces so many after effects, imitates so many other diseases there is no way of telling the full extent of the damage. Eleven per cent of all persons admitted to New York State institutions for the insane—a fair index for the country—are put there by—syphilis! About 10 per cent of the deaths due to heart disease are the result of the infection of syphilis.

The majority of patients under treatment in public clinics are in the chronic or late stages of syphilis. Hundreds of millions of dollars are poured out every year, for hospitalization of syphilis-borne infirmities. Tax payers meet most of these bills, because the chronically ill, usually, are also indigent. Employers pay heavily, too, in compensation relief and medical costs for venereally infected employees.

Unfortunately, there is no method of preventing these diseases by vaccines, as in typhoid, smallpox and diphtheria; therefore, to control the disease, it must be treated. I realize the difficulty that the doctor has in giving adequate treatment, for the average patient cannot understand the necessity of continuing treatment for 18 or more months. After a few shots, he feels much improved and thinks the doctor is trying to run up a bill.

ADVANCES TO CONTROL VEREREAL DISEASE IN LOUISIANA

In Louisiana, thanks to the wholehearted and unselfish cooperation of the medical profession, we have started on a Venereal Disease Control Program which we hope and pray, will continue to grow by leaps and bounds. It is impossible to work out a plan that would be satisfactory on a state-wide basis, therefore, each parish medical society or group is consulted before any attempt is made at treatment, and the local society or group agrees upon a plan. We discourage the local Health Unit Directors treating any case of syphilis; but, in two or three instances, at the request of all members of the local medical profession, the Director is administering the treatments to a limited number.

It is our desire to cooperate with the medical profession in every way possible in the control of syphilis! It is with regret that we are unable, at this time, to furnish arsenicals, bismuth and distilled water to all physicians for all patients. At present, due to lack of sufficient funds, we are furnishing treatment only to organized clinics in charge of a local physician. At these clinics, we treat only patients who have been certified by the Welfare Department as to indigency. Outside of Welfare clients, already receiving aid, any patient applying for certification must be referred to Welfare Department by a reputable practicing physician over his signature. It is necessary, when a patient is admitted to treatment in a clinic that treatment be continued without interruption, and it is also necessary to follow-up the patient who fails to attend clinic, to see why he or she did not report and, through every means possible, to see that he or she continues treatment. In this feature, we are indebted to the State Welfare Department for assistance in follow-up work as well as hearty and unselfish support in various ways.

I realize that this program is very inadequate and unsatisfactory, but we in Louisiana hope that, in the not too distant future, Federal funds will be made available to pay the private physician well for his services in conducting these clinics. The physician is all too often called upon to do "charity work," and it is not fair to place the additional burden of syphilis control upon the medical profession without their being paid for their services.

As you probably know, there are at present 39 full-time health units in Louisiana; and, in all these parishes, we have started a case-finding program; and, in some parts of the state, where there is a dense negro population, the results are appalling. In some cases, taking a plantation as a whole, Wassermann survey showed 35 to 45 per cent positive reactions.

Some physicians make it a routine practice of taking a specimen for Wassermann on every patient, no matter what the complaint. If all physicians would make this a routine practice, it would result in the finding of thousands of cases of latent syphilis and it would go far toward the ultimate control.

The question comes up: Why make such an effort to find syphilis when we do not have provisions to treat the disease adequately? We can only cooperate with the medical profession in making the best of an unsatisfactory situation, in the hope that soon our dreams will be realized in that free laboratories will be available to all physicians, free treatment will be furnished to physicians for all their cases regardless of their ability to pay, all indigent cases found to take adequate treatment—not at a centralized public clinic where transportation to and from clinic proves to be a vital problem—but at local clinics conducted by local physicians, paid by the government. Let us take the "charity" burden from the shoulders of the private physician instead of trying to place this additional burden upon him.

Out of the 39 full-time health units, all have venereal disease clinics going except five or six, and in all we have over 40 organized clinics in the state, having under treatment at this time a near approximation of 3300. With your continued cooperation, we hope to shorten the days between our present struggle and the gratifying realization of our dreams.

DIAGNOSIS AND TREATMENT OF GONORRHEA

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Gonorrhea has been known to the Chinese for more than 5000 years. It was proved to be due to the gonococcus by Neisser in 1879, was first inoculated into the human urethra by Bumm in 1885, and stands today a most difficult medical and social problem. It is responsible for 20 per cent of blind children, many neurasthenics, invalids and cripples, and millions of dollars loss in wages each year.

The frequency of gonorrhea is said to rival that of the common cold. Among the factors responsible are, first—the nature of the disease itself. There is a period of activity followed by a latent stage, during which all symptoms may disappear while the gonococcus is still present; second—many infections occur during the incubation period. An individual may become infected and transfer the disease during the next few days before symptoms develop; third—the ever-present menace of drugstore treatment. It has been shown by various Social Hygiene Agencies that in many communities, two and a half times as many individuals apply to druggists for treatment as apply to recognized medical agencies. The chief fault with this type of management is that the patient is left the sole judge of the course and cure of his infection. Charlatans, quacks, prostitutes and their free competitors contribute their share in making gonorrhea a difficult disease to control.

The successful management of any disease is dependent largely upon careful methods of study and examination. Finding Gram-negative diplococci does not necessarily make the diagnosis of gonorrhea. It must be remembered that practically all cocci multiply by fission, and at some time or other during the course of their development they appear to be diplococci. They may be Gram-negative, are often seen within the leukocytes and may so closely resemble the gonococcus that it is impossible to tell the difference on a single stain. If on repeated stains, Gram-positive and Gram-negative organisms are found in the same field, and especially if cocci and diplococci of irregular size and arrangement are present, one is probably not dealing with the gonococcus. The gonococcus is always Gram-negative. It occurs in two and multiples of two, is always of uniform size, shape and arrangement, and is found chiefly within the leukocytes.

Finding the gonococcus determines the presence of infection, but its location and the extent to which it has invaded the tissues must be determined before the diagnosis can be considered complete. In order to locate the infection accurately, it is necessary to understand the anatomical make-up of the genital tract and the possible barriers to invasion. It has been shown that squamous epithelium is very resistant if not entirely immune to gonococci, also that transitional cells are not readily invaded unless the submucosa is rich in glandular tissue; on the other hand columnar epithelium is highly susceptible to gonorrheal infection. For that reason one should know the type of cells found in each anatomic division in order to understand where infection is most likely to be found.

ANATOMIC DIVISIONS

The anterior urethra is that part of the canal extending from the external urinary meatus to the anterior layer of the triangular ligament. The meatus is lined with squamous cells, while the rest of this division, including the crypts and glands of Littre, is lined with columnar cells. It is in this part of the canal that gonorrhea starts and where it remains in a large number of well-handled cases.

The membranous urethra lies between the two layers of the triangular ligament, and is completely surrounded by the cut-off muscle. It is lined with transitional epithelium which lies in close proximity to the muscle. There are no submucosal glands, and for that reason, stricture formation from infections is never seen in this part of the canal. Because of its construction, very little infection occurs here and it acts as a relative barrier to extension of infection from the anterior to the posterior urethra.

The posterior urethra runs from the bladder outlet to the cut-off muscle or posterior layer of the triangular ligament. It is completely surrounded by the prostate. The epithelial lining is of the transitional variety but all mucous channels entering from the prostate are lined with columnar cells, consequently the prostate shows some degree of infection in every case of posterior urethritis. The emptying channels present poor drainage possibilities and the prostate once infected has a tendency to hold infection for a long period of time.

Cowper's glands lie on either side of the membranous urethra between the layers of the triangular ligament. They empty by small ducts into the anterior urethra at the bulb. Their involvement is not very common but is readily recognized as a painful swelling in the perineum, easily felt between an index finger in the rectum, and thumb on the outside.

The seminal vesicles lie below the base of the bladder and above the lateral lobes of the prostate. They become infected in about 2 per cent of cases, but apparently do not harbor the organisms for a long period. They have a tendency to become sterile, as in case of fallopian tubes, and are probably not a contributing factor in cases of prolonged chronic gonorrhea.

Epididymitis is a frequent complication in clinic patients, but is fairly uncommon in well-controlled private cases. In the majority of instances it is found to follow either too strenuous treatment by the physician, or poor behavior on the part of the patient. Abscess formation is unusual, and involvement of the testicles rarely occurs. Sterility is the most important sequel.

SYMPTOMS

It seems necessary to discuss symptoms at length for the reason that the complaints depend so largely upon the patient's mental attitude toward his infection. Neurotic individuals suffer agony while the phlegmatic has only discharge. The ordinary case of gonorrhea is not a painful disease. With involvement of the anterior urethra there is discharge, redness of the meatus, slight smarting on urination, and only rarely do the dorsal lymphatics and inguinal lymph nodes become a part of the clinical picture. With extension to the posterior urethra, the second glass of urine becomes hazy, but often there is no other indication that the disease has spread to this part of the canal. There may be slight frequency of urination and an occasional painful erection. If severe, however, there is urgency, tenesmus, terminal hematuria, and, if the prostate is swollen, there may be fever, leukocytosis and difficult urination. Occasionally an acute right vesicle or extension along the right vas may simulate appendicitis.

Prevention is the most important step in the control of any disease, and, in so far as venereal infections go, it would be ideal to have individuals abstain from illicit sexual exposure; but since that cannot be expected of our present crop of human beings, we as physicians must teach individuals prophylaxis and leave the moral question to be settled by other agencies.

Chemical prophylaxis is 90 per cent effective if used within the first half hour. It should be used as late as 24 hours, but is no good after the gonococcus penetrates the mucosa.

Once the disease has developed it becomes our purpose to get rid of it in the shortest possible time. Patients who have had the disease only a short time are less likely to spread it by becoming lax in their behavior; the possibility of complications is reduced to a minimum and the patient's economic situation is little affected by loss of work or cost of treatment.

COMPLICATIONS

The patient is responsible for some of the complications that arise and time should be taken during the first visit to impress upon him the importance of good behavior; alcohol and sexual excitement are prohibited; strenuous physical exertion may interrupt a smooth course of the disease, but if the patient is a laborer and his living depends upon his job, he is advised to continue working and accept the chances of complication. Ether fumes have the same effect as alcohol, and patients subjected to them have trouble. With the exception of alcohol, the diet is not restricted. Burning on urination is due to liberated toxins and not to condiments, neither does their omission from the diet relieve this symptom. If the patient is annoyed by painful erections, coffee may be left off, not that it has any direct influence, but for the reason that it may contribute to a restless night. Free use of soap and water in personal cleanliness reduces the chance of the patient transferring infection to his eyes. It also keeps him from becoming a menace to female children in the family who may become infected by accidental contamination.

TREATMENT

In so far as drugs are concerned, there are at our disposal the various preparations for administration by mouth, vaccines and their allied products for intradermal or hypodermic injection, and the solutions long used for treatment to the urethra. Until the past few months, urinary antiseptics given by mouth were fairly unsatisfactory. Alkalis relieve burning on urination but serve no other useful purpose. Pyridium has been widely used by American urologists, and good results are said to have been obtained. Patients with distressing bladder symptoms from acute posterior urethritis are certainly made more comfortable by its use, but I am unable to say whether or not it has any antiseptic value. Sulfanilamide has recently appeared upon the market, and its value has apparently been established. Many clinicians have been using enormous doses and report the cure of large numbers of patients in one to three weeks' time without support of other treatment. My own experience has been confined to patients treated with smaller doses, usually 20 grains daily and perhaps for that reason I have been unable to duplicate the results of others. After seeing some of the toxic effects of the drug, including autopsy specimens of two cases (not my own) of patients where sulfanilamide was given as the cause of death I have been unwilling to risk the larger doses. It has also been my custom to continue routine urethral injection and irrigation. Too many of the cases tried on sulfanilamide alone recurred after the drug was discontinued. It is my feeling at the present time that sulfanilamide reduces the likelihood of complications and shortens the course of the disease. I also believe that, if used in conjunction with local treatment, a larger number of patients will be cured in a shorter period than if the drug is used alone.

Vaccines and filtrates have been a complete failure in my hands. The number of complications occurring in a fair sized group of cases indicate that they are not only useless as a therapeutic measure, but actually may do harm.

In the use of local treatment to the urethra, the importance of non-irritating drugs and gentleness of application cannot be too strongly emphasized. Potassium permanganate solution in strength of 1:8000 has been used with satisfaction for many years. Pelouz, in a recent publication, stated that in the treatment of gonorrhea if he were restricted to the use of one drug, potassium permanganate would be his choice. It is used as an anterior irrigation for anterior infections, and as a posterior irrigation when infection spreads to that part of the canal. Protargol ¼ to ½ per cent and neosilvol 5 to 10 per cent are two of the popular drugs for hand injection to be used by the patient. About 5 or 6 c.c. of the solution is injected three or four times daily with a glass blunt-tip rubber bulb syringe. In uncomplicated cases the patient reports to the office two or three times each week, for five or six weeks. Treatment is then discontinued, and if no recurrence takes place within the maximum incubation period, the patient may be allowed to resume his normal activities. Unprotected intercourse, however, should be prohibited for at least three months.

If infection spreads to the posterior urethra, the prostate becomes involved and treatment is often long drawn out. Anterior injections are continued to control discharge, and posterior irrigations of potassium permanganate are started. When the patient is comfortable, gentle prostatic massage may be started, and if symptoms do not recur as a result of such treatment, it should be continued twice a week, until the prostatic secretion is free from infection. Occasionally the prostate becomes swollen, and there is an associated rise in temperature, leukocytosis and difficult urination. Abscess formation may occur. The indications are rest in bed, local heat and limitation of fluid intake. Surgery is rarely necessary.

Infected seminal vesicles are allowed to pass through the acute stage, and then treated by stripping, along with prostatic massage. Injections of antiseptic solutions into the vas or ejaculatory ducts is apparently useless.

Cowper's glands occasionally become infected, usually suppurate, point in the perineum and demand surgical drainage. They are easily removed if chronically infected.

Epididymitis is most commonly caused by exercise on a full bladder, forcing infected urine down the vas. Occasionally it may occur by surface extension, in which case the vas is swollen before the epididymis. It is ushered in by pain, swelling and fever, usually lasts 10 to 14 days and may shorten the course of the disease. The indications are rest, support of the testicles by an adhesive plaster bridge, and opiates for pain. Surgery is rarely indicated.

In regard to the use of instruments in gonorrheal infections it is usually safe to say that they should never be used as long as the gonococcus is present. On the other hand, I would like to make two exceptions to this in cases of prolonged chronic infection. One is the use of sounds in the anterior urethra for the purpose of locating infiltrations of the submucosal glands. The other is the use of an endoscope for the purpose of destroying the glands by pure silver nitrate fused on a fine wire. I have seen these infections terminated by two or three such treatments on more than one occasion.

SUMMARY

The spread of gonorrhea is vicious and hidden, and its complications are frequent, intractible and serious. It is responsible for more marital unhappiness and sexual disability than any other disease. It is regarded with prejudice, indifference and secrecy, is distasteful and disagreeable to the general medical profession. The only means of improving the present situation lies in the education of laymen as to means of prevention and medical workers better trained in methods of treating the disease after it has developed.

COMPLICATIONS TO ANTI-SYPHILITIC THERAPY

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In this time of radical curative procedures of syphilis therapy it is wise to pause for a moment and to glance in retrospect over what has been accomplished in this field. Certainly we have gone far in the past thirty odd years since the discovery of the actual cause of syphilis. Probably the resultant diagnostic acumen has overshadowed the therapeutic progress, but be that as it may, we certainly know more about syphilis today or think we do than did our predecessors of a half century ago.

Wassermann and Hati's contribution in the diagnostic field, the so-called Wassermann test, is responsible for a good deal of this enlightenment, but are we becoming too much dependent on laboratory reports and losing some of the diagnostic keenness which our teachers possessed?

While we probably have improved our therapeutic armamentarium considerably since the beginning of this century, there are certain facts which must be considered. These are concerned namely with: (1) The virulence of the organism; (2) the resistance of the host. These are possibly closely allied with the following: (3) the increasing amount of visceral complications; (4) the alarming increase in central nervous system manifestations.

Perhaps much of the increase in visceral and central nervous system syphilis is due to better diagnostic facilities, but the fact remains that virulent primary phases and fulminating secondary eruptions are on the wane. Not so many years ago death due to syphilis in the primary and secondary stages was not an uncommon complication, but today it is indeed rare.

Probably the much debated question of individual immunity comes up again or even the attenuation of the spirochete itself may be the answer. It is not improbable that both of these things do occur and are occurring.

Most everyone who has had much experience in the treatment of syphilis believes that while the present combined method of heavy metal and arsenical therapy offers much improvement over older methods of antisyphilitic therapy it is still not the panacea we all hope for. Again we know that much of the disappointment in antisyphilitic therapy is due to injudicious use of the available drugs. Certain factors enter into the treatment with these medicaments, which are often disregarded or ignored.

The age of the patient is the most important factor in the treatment of syphilis. If a therapeutic paradox is to be avoided in which the disease is cured but the patient is killed, we must consider the tolerance of the individual—age brings on retrogressive changes in which repair is slow. Blood vessels and visceral tissues alike must bear the brunt of too vigorous therapy.

Next to the age of the patient the stage of the disease itself is of utmost importance. It is folly to hope to cure a deeply entrenched late syphilitic infection which has marked visceral destruction, but at least these patients may be prevented from becoming worse. We can hope to halt the inroads of the syphilitic infection and make the patients comfortable. Then too these individuals may be kept from becoming public charges by preventing late central nervous syphilis and visceral sequelae.

CONTRAINDICATIONS TO ARSENICALS

A little consideration of the paramount contraindications will often prevent much subsequent grief. Since arsenicals are the chief offenders it might be wise to list the chief contraindications to this metal:

1. Diseases of the brain and cord:
   (a) Acute meningeal.
   (b) Marked vascular involvement.
   (c) Diffuse encephalitic process.
   (d) Myelitis.
2. Diseases of the liver:
   (a) Acute diffuse hepatitis.
   (b) Late extensive hepatitis
   (c) Cirrhosis.
3. Diseases of the cardiovascular system:
   (a) Extensive myocarditis.
   (b) Coronary lesions.
   (c) Aneurysms.
   (d) Bacterial endocarditis.
4. Diseases of the kidneys:
   (a) Interstitial nephritis (late).
   (b) Chronic nephroses.
5. Diseases of the spleen:
   (a) Cirrhotic splenomegalies.
6. Diseases of the lungs:
   (a) Acute advanced tuberculosis.
   (b) Acute febrile septic conditions.
7. Diseases of metabolism:
   (a) Hyperthyroidism.
8. Diseases of the skin:
   (a) Allergic dermatitis.
   (b) Exfoliative dermatoses.

After a consideration of the foregoing contraindications some thought should be given to the selection and preparation of the drug and the mode of administration. The need for utmost care in the sterilization of equipment and the manner of mixing the therapeutic agents is paramount. After the dosage and manner of injection is decided upon and the drug has been given, many factors enter into the picture to complicate it further. Some of these are uncontrollable and are due chiefly to dyscrasias of the disease or the individual. Some are dependent entirely on the reaction of the patient due to idiosyncrasy or hypersusceptibility. But all too often reactions are due to a slip up in technic. Saturation and toxic manifestations are indeed a thing apart, but they merely darken the picture.

The general reactions following the arsphenamines are indeed many and time can be taken merely to mention some in the form of an outline, as it would take chapters to discuss these various reactions in detail. The general reactions following the arsphenamines are:

1. Jarish Herxheimer reaction:
   (a) Local.
   (b) Visceral.
   (c) Cutaneous.

2. The reaction produced by unalkalized arsphenamine.

3. Mild reactions due in part to route of injection or the drug:
   (a) The tubing reaction.
   (b) The "ether" odor of the arsphenamines.
   (c) Gastrointestinal reactions.
   (b) Schick-like reaction.

4. The angioneurotic symptom complex:
   (a) Nitritoid crisis.
5. Reactions due to myocardial disease.
6. Postarsphenamine dermatitis:
   (a) Due to saturation.

    (b) Due to sensitization.

7. Reactions due to injury to the nervous system:
    (a) Polyneuritis.
    (b) Hemorrhagic encephalitis.
    (c) Transverse myelitis.
8. Blood dyscrasias:
    (a) Thrombocytopenia.
    (b) Granulocytopenia.
9. Postarpshenamine jaundice.
10. Renal injury from arsphenamine.

Many of these untoward effects can be avoided by such simple precautions as careful history taking and questioning concerning reaction following previous injection. It is necessary to know what mild reactions happened after the last injection, both systemic and cutaneous. The simple precaution of giving a preliminary heavy metal injection before starting intravenous arsenical therapy prevents many serious complications. Itching of the skin or even erythema of the areas where the skin surfaces rub together as in axillae, is often a prodromal sign of arsenical intolerance or saturation—just as burning along a vein at time of injection, independent of infiltration or extravenous injection, often indicates an approaching nitritoid reaction.

Conjunctivitis and nausea are all symptoms worthy of investigation and frequently are heralds of ensuing danger. If a patient has been properly prepared by fasting and catharsis and still becomes nauseated after diminished doses of arsenicals, a change to a milder form of arsenical therapy or discontinuation of the drug, at least temporarily, is indicated. What has been said of the arsenicals applies equally as well to the heavy metals, but the complications of these are less frequent. Proper oral hygiene and dental care will eliminate many of these unsought sequelae.

BISMUTH REACTIONS

Bismuth is neither as powerful nor as rapid in its action on the spirochetes as are arsphenamine or neoarsphenamine, but it is apparently more efficacious than mercury. Bismuth is an excellent heavy metal to use in conjunction with the organic arsenicals. If an intolerance or resistance to the arsenicals exists it is an effective drug when used alone or with iodides. The complications following the use of bismuth either intramuscularly or intravenously are not as numerous or as serious generally speaking as are those associated with arsenical therapy. The sequelae following intravenous colloidal bismuth preparations are more numerous than by the intramuscular route as the drug is much more toxic when given intravenously. The speed of absorption of the intramuscular injection is dependent upon the type of material injected. The water soluble preparations are much less painful than the oil soluble ones, but it must be remembered that the toxicity of a heavy metal depends greatly on the rapidity of absorption of the drug, consequently, the oil soluble preparations are safer even though they are more painful.

A consideration of the condition of the kidneys, gastrointestinal tract, especially the stomach, and the hygienic status of the mouth is certainly necessary before instituting heavy metal therapy. Some of the more common reactions following bismuth injections are:

1. Local accidents.
2. Systemic reactions.
    a. Febrile.
    b. Stomatitis.
    c. Gastrointestinal upsets.
    d. Cutaneous reactions.
    e. Nephritis.
    f. Nervous system reactions.
    g. Blood dyscrasias.

Embolus following injection due to perforation of a blood vessel and injection of the oil preparation into the blood stream can be avoided by the simple precaution of pulling on the plunger and looking for blood on the syringe before injection of any material into the muscle of the patient.

The gastrointestinal upsets are at times quite pronounced and necessitate temporary discontinuation of the bismuth therapy.

The cutaneous reactions are bizarre and atypical. Most frequently they resemble superficial mycotic infections. Time will not permit a discussion of the various complications so I must be content with a mere mention of them.

MERCURIAL REACTIONS

The systemic reactions following mercury therapy, while similar to those of bismuth, are probably more numerous due to the greater toxicity of the mercurials. Because of the general use of mercury both by mouth and in inunction form there are added possibilities of reactions. Bismuth when given orally has not proved as effective as is mercury given by the same method. Then too inunctions of bismuth have not been adopted for general use because of their lower therapeutic value.

While the safest method of giving mercury is by inunction it is an uncertain method, as one does not have complete control of the patient and has no practical accurate way of determining how much of the drug is actually absorbed and utilized. The oral method of mercurial therapy has many disadvantages, also, as it precipitates gastrointestinal upsets and the actual absorption index is difficult to determine.

The systemic reactions of mercurial therapy may be briefly listed as follows:

1. Local accidents.
2. Systemic.
   a. Stomatitis.
   b. Colitis.
   c. Cutaneous outbreaks.
   d. Nephritis.
   e. Nervous disorders.

Since the introduction of bismuth in 1922 by Sazerac and Levaditti as a practical therapeutic adjunct of our antisyphilitic armamentarium, it has greatly replaced mercury for that use. Many doctors still use intravenous mercury injections, and intramuscularly also, but the intravenous method is of relatively higher toxicity and kidney damage is a common sequel. Herxheimer reactions are not uncommon following intravenous injections of heavy metals, but to a lesser degree than with arsenicals.

IODIDE REACTIONS

The exact status of iodide in acute syphilitic therapy is a much debated question. It is rather generally agreed by syphilologists that iodides are of little value in the treatment of early syphilis other than as a tonic, if of any value even for that purpose, but since syphilis, like all specific granulomata's, heals with scar tissue formation then probably the iodides do help prevent overgrowth of scar tissue and enable the drugs with spirocheticidal properties, to penetrate the foci of late syphilitic infection. Iodides have no selective action on any type of scar tissue so care should be taken in prescribing the drug in cases of healed or arrested pulmonary tuberculosis. The question of idiosyncrasy and saturation applies here just as in other therapeutic agents. The use of iodides in cases with diseased thyroid glands should be decided upon only after determination of the type of hyperthyroidism. A few of the common reactions to iodine therapy are given below, but again an apology is made for the brevity of discussion which time necessitates:

1. Coryza.
2. "Iodic grippe."
3. Skin eruptions.
4. Nervous system complications.
5. Miscellaneous symptoms of iodism.

The complications involving the mouth such as salivation and marked coryza are probably the ones most frequently encountered, although gastrointestinal upsets are not uncommon. Care should be taken to avoid these complications during pregnancy.

The cutaneous eruptions vary from simple iodide acne to the fungating lesions sometimes seen in cases of iodide saturation. It is important to remember that the halogens may be transmitted to nursing infants by mothers on iodide therapy. Iodide eruptions are occasionally seen in nursing infants who receive the drug by way of the mother's milk. Usually the discontinuation of the drug in mild cases will suffice to clear up the eruption.

COMPLICATIONS OF PYRETOTHERAPY

With the increase in the use of fever as a therapeutic agent no general paper on syphilitic therapy or its complications would be complete without listing the complications of malaria therapy and of electropyrexia—a brief outline of the contraindications and complications of these two generally accepted methods of pyretotherapy are here given.

Contraindications to Pyretotherapy:

1. Heart lesions with myocardial degeneration.
2. Anemia.
3. Kidney complications.
4. Marked glandular disease.
5. Debilitated patients (circulatory asthenia.)
6. Meningovascular syphilitics with localized lesions.

Complications of Therapeutic Malaria:

1. Pyogenic infections.

2. Albuminuria and casts.
3. Mild icterus.
4. Uremia.
5. Toxic psychosis.
6. Anorexia.
7. Severe toxemia.
8. Secondary anemia.
9. Convulsions.
10. Aggravation of gastric crises and shooting pains.
11. Hemiplegia.
12. Ruptured spleen.
13. Circulatory collapse.
14. Acute bulbar palsy.
15. Pneumonia.

Reactions and Complications of Electropyrexia (Inductotherm):

1. Dyspnea.
2. Restlessness.
3. Dimness of vision (at height of the fever).
4. Herpes simplex facialis.
5. Vomiting.
6. Precordial oppression.
7. Tachycardia.
8. Cyanosis.
9. Burns.
10. Marked loss of weight.
11. Uremia (rare).
12. Vascular collapse.
13. Sudden rise in temperature above 107 degrees F. with death.
14. Tetany due to alkalosis.

No plan of antisyphilitic therapy is complete without periodic examination of the spinal fluid. These spinal surveys are in some cases definitely contraindicated. The following chart covers the conditions generally accepted as such.

CONTRAINDICATIONS TO SPINAL PUNCTURE (RHACHIOCENTESIS)

1. Brain tumor.
2. High blood pressure; severe myocarditis.
3. Arteriosclerosis.
4. Recent cerebral hemorrhage.
5. Intercurrent infections.
6. Meningitis of cord.
7. Certain blood dyscrasias.
8. Obvious deformity of the lumbar spine.
9. Pregnancy.
10. Marked debilitating systemic disease.

The complications of spinal puncture are too well known to warrant discussion here and the precautions necessary to alleviate these sequelae are in general use.

SUMMARY

In closing this elementary presentation an apology is offered for its inadequacies which partly are necessitated by limitation of time of presentation. Too much emphasis cannot be made of a few points, however, and they are: (1) Treat to cure in early syphilis; (2) treat to tolerance always; (3) use arsenicals early when possible and combine with heavy metal therapy; (4) consider the age of patient and duration of disease ratio at all times; (5) if clinical cure is not possible attempt to arrest the disease and prevent further sequelae; (6) thorough and frequent clinical check up is an integral part of any antisyphilitic routine; (7) know and respect the contraindications to each form of therapy and the complications will be few; (8) the proper treatment of syphilis embraces a thorough knowledge of the individual patient's physical status. It is not merely a technical procedure of injecting drugs; (9) in early syphilis "make haste" cautiously—in late syphilis cease making haste and be more cautious.

RADIATION TECHNIC IN CARCINOMA OF UTERUS*

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Just a few years ago there was a division in the minds of medical men as to the proper treatment of appendicitis. This division of medical opinion resulted mostly from the fact that proper surgical technic, proper selection of cases for radical treatment and proper preparation of the patient had not been carefully worked out. As a result, failures were frequent, creating in the minds of many good doctors, the belief that non-surgical treatment of appendicitis was just as effective and more so than surgery. Gradually, as a perfected technic was developed, as proper selection of cases for operation was found necessary and their preparation for operation found essential, results improved with a unified medical mind that the proper treatment for appendicitis is surgical removal.

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*Presented before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 3, 1938 at New Orleans.

Among well informed members of the medical profession today, a large majority agree that the proper treatment for uterine carcinoma is radiation. A minority are still of the opinion that radiation has not proved its claims. This belief results from the one and only fact that their observations have had to do with cases in which improper radiation technic was used. Right here let me say there is no one technic that can be called the best. There are many ways of properly applying radiation in uterine carcinoma; there are many more that are improper, worthless and harmful.

In 1922, John G. Clark of Philadelphia made the statement that he believed the treatment of uterine carcinoma was a radiologic problem. This statement brought consternation in the ranks of the surgical profession, but hastened the final adoption, generally, of his opinion.

I do not feel that this discussion calls for any argument as to the efficacy of radiation in uterine carcinoma. The literature today is voluminous and very conclusive to those seeking facts without bias.

I start out with the premise that radiation is the proper treatment of uterine carcinoma. That being the case, what is the correct technic of applying the radiation?

We frequently hear and read papers written on the radium treatment of uterine carcinoma or carcinoma of the cervix. These discussions are usually by men who are primarily surgeons who have taken up radium therapy as a side line, a kind of economic adjunct. Many cases of carcinoma of the uterus can be cured by radium alone, but it is felt that no woman with uterine carcinoma has been given her best chance of a permanent cure unless she has had both radium and roentgen ray radiation properly and thoroughly applied. So by radiation technic is meant the method of using these two agents.

The proper technic involves the careful consideration in each case, of three steps: (1) The selection or classification of the patient for treatment; (2) the preparation of the patient for treatment; and (3) the administration of the radiation.

In the selection and classification of the case, it is assumed that the proper diagnosis has been made, that the case is definitely one of carcinoma. I will not reopen the argument as to the relative merits of various steps and procedures in arriving at the diagnosis.

Suffice it to say that after more than twenty-five years of actual practical experience and careful observation, I feel no woman should be denied prompt and proper treatment for uterine carcinoma, if the clinical findings indicate it, regardless of a negative biopsy. As I look back over the past both recent as well as distant, too many sad experiences have been encountered, where a negative biopsy lulled the patient and doctor into a sense of security, only to be aroused when it was too late. It must be remembered that interpretation of tissue as viewed through the microscope, is the expression of an opinion and an opinion of an infinitesimal portion of the diseased area and not a statement of a positive fact.

The clinical findings are likewise opinions, but are backed by the whole picture deliberately studied rather than a fleeting view of a small part of the picture. The doctor undertaking the treatment of such a serious condition as uterine carcinoma, and who feels that his opinions are of no decisive value after examining the case and that he must wait for a telephone call from the laboratory before advising his patient, should take time out and better prepare himself for the job.

Those interested in the cure of patients rather than the writing of would be scientific essays, feel assured by a positive biopsy report, but are not deterred by a negative one, if their experience teaches them it should be the opposite.

SELECTION OF PATIENTS

In the selection and classification of patients, they are divided into two groups: First, those in whom it is hoped to effect a cure; second, those in whom only palliation can be expected.

In the first group are many in whom the disease has advanced far into the parametrial tissues. These, as well as those yet confined to the cervix and within the uterine body, should receive the maximum radiation from which the normal tissues in that area will recover. We feel that in the treatment of uterine carcinoma, there is but one dose and that is the maximum. The treacherous practice of scaling down the dosage of radiation according to mythical grades, has resulted in the loss of many patients who might have been saved had dosage been given to the limit of normal tissue recovery. There are carcinoma cells that are more resistant to radiation than normal cells and necessarily cannot be sterilized by radiation, yet many patients with so-called adenocarcinoma yield nicely to radiation. On the other hand cases classified as radiosensitive, refuse to subside under most intensive radiation.

In the light of present knowledge, pelvic carcinoma is carcinoma and calls for the maximum dosage that can be safely administered, where we are working for a cure. The future may show the problem to be more simple.

In the second classification of patients, those in whom only palliation can be expected, the problem and plan is entirely different. Some of these reach us in a hopeless stage, who have never received treatment, some badly or overtreated. The unfortunate who has advanced carcinoma and has never received treatment, may be greatly relieved, made more comfortable and life prolonged by gentle radiation applications, relieving her of hemorrhage and sepsis. By roentgen ray radiation, painful metastatic foci may be controlled and fractured bones prevented. The unfortunate victim of repeated heavy radium dosage to the uterus with a large cratered sloughing cavity, may be spared sudden death by hemorrhage or slow septic death, by careful non-depressing dosage of roentgen ray radiation. Repeated radium applications in these cases only aggravate the trouble, whereas the judicious use of roentgen ray radiation will palliate all and in some instances, produce cures.

PREPARATION OF PATIENT

The second step, the preparation of the patient for radiation treatment, may determine the final result. To rush a patient into the hospital for a radium application immediately after its use is determined upon, is as hazardous as doing a laparotomy with no preparation of the patient. Radium applied to a septic, sloughing cervix, frequently fails where the same treatment may succeed, if given after the local area has been properly cleaned up and the patient otherwise prepared to withstand the reaction and resulting absorption of septic material following the radium application.

In recent years the attention of the profession has been called to the effect of roentgen ray on inflammatory infective processes. This effect results in deep tissue, as well as surface and near surface infections. By the proper application of roentgen ray radiation without, over a period of three or four weeks, a cervix highly inflamed, engorged and saturated with infective secretion, will most generally contract, de-congest and free itself of infection, the ideal condition for proper radium application.

TECHNIC OF RADIUM APPLICATION

And this brings us to the third step, the actual technic of the radiation. The correct technic in the treatment of uterine carcinoma, is that technic which delivers to all suspected carcinoma areas, an amount of radiation lethal to the carcinoma cell and short of lethal effect on pelvic tissue necessary to be conserved. In order to do this, the combined use of radium and roentgen rays is necessary. The ideal is a combination of these agents in such a way that all areas receive the same amount of radiation. This ideal is never accomplished because of the difference in absorption of radium and roentgen rays by the tissues. However, it can be approached by applying roentgen rays through the proper number of ports externally and radium from within, in properly graduated dosage.

There are many curves, twists and figures today, purporting as guides to make the administration of radiation easy and accurate in uterine carcinoma; some of them so persuasive that many radiologists swallow them with one gulp, forgetting that different patients and different apparatus are rarely duplicated in practice.

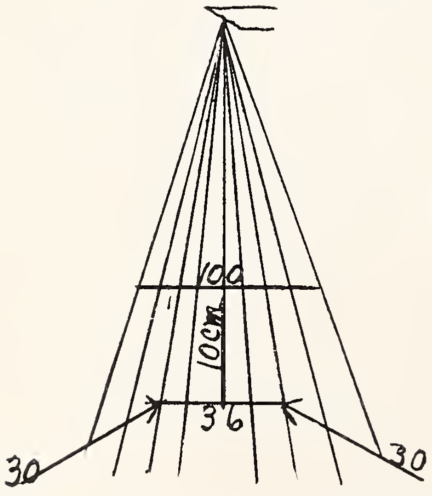
Clinical observation has taught us that roentgen ray radiation in divided doses, through several ports, may be built up to an amount sufficient to kill carcinoma cells with little damage to normal tissue through which it has to pass, though these cells lie considerable distance beneath the surface. It is easy to kill carcinoma cells with radium radiation, that lie close to the point at which radium is applied, such as the uterine canal or cervix, but it is the cells which lie distant from these points that determine the ultimate outcome of the case and which must be sterilized for permanent cure.

Viewing the problem from a common sense standpoint, years ago it was realized that success in curing uterine carcinoma depended upon killing those cells wandering out and away from the original focus and that their death should be the first step. As a result, roentgen rays were used intensively through multiple ports in an attempt to kill these cells, reserving the use of radium for the primary focus, after sufficient roentgen ray radiation had been applied. This, it is believed, is the correct plan and the correct technic I have attempted to show in the following charts.

Over a period of four or five weeks, 10 to 12,000 r are administered by weekly doses. Following this, there will be found a comparatively aseptic cervix, engorgement reduced, cervical tissue retracted and little ulceration where formerly it was extensive. In some of the more sensitive types, this is all that is necessary.

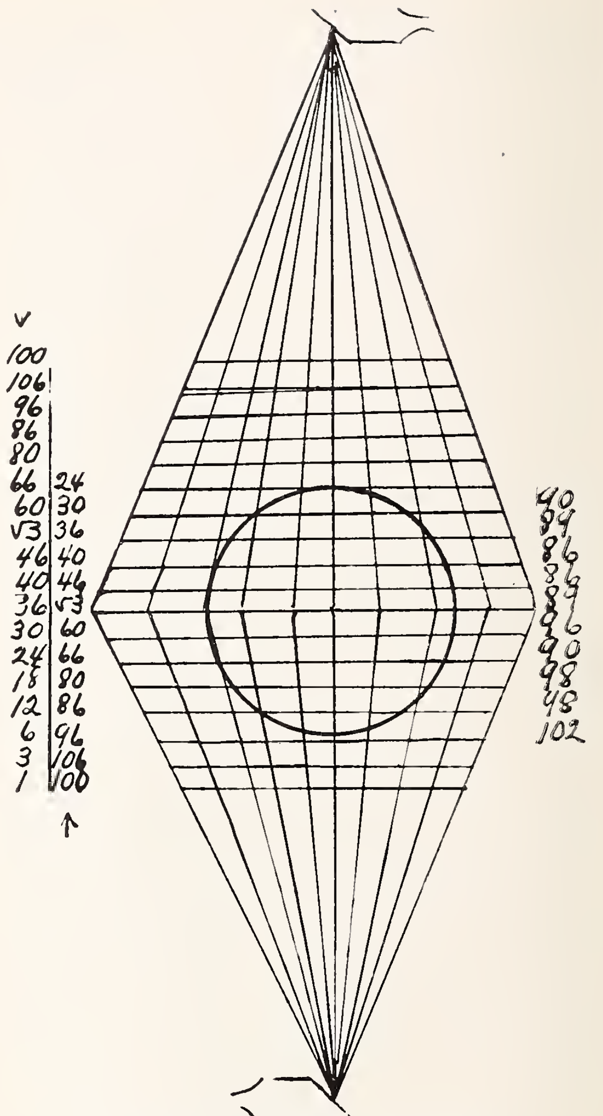
In the majority of patients following the roentgen ray radiation, radium should be applied, adding to the roentgen ray radiation to bring the total dosage throughout the pelvis to the maximum amount.

Chart 1 shows that the dose at 10 cm. depth, is 36 per cent and 5 cm. laterally from this point each way, it is 30 per cent, only a loss of 6 per cent. A beam passing through the pelvis, thus varies only 6 per cent, 5 cm. in each direction from its central point.



100%-15cm pt. = 36% 10cm depth in
center-30% at edges 10cm radius
200 K.V.C.P.-1mm Cu.

CHART 1



T.E.D % distrib. in pelv
10 cm diam. 2 pts X Rays
200 K.V.C.P.- 1mm Cu.

CHART 2

Chart 2 illustrates the percentage amount of T. E. dosage which reaches various centimeter levels in the pelvis over a 10 cm. radius distance, giving two ports.

Chart 3 shows the total roentgen ray dosage distributed throughout the pelvis 5 cm. from the cervix in all directions, using four ports, (column 4) a full treatment. I have found that the average skin will stand this dose once every seven days for five applications, (column 5.) In this time, 30 days, I will have applied 20 T. E. doses and the percentage of different centimeter levels is indicated in column 5. Now, if 1200 mg. hours of radium is applied in the cervix, the additional T. E. dosage as indicated by the circle on the right of Chart 3,

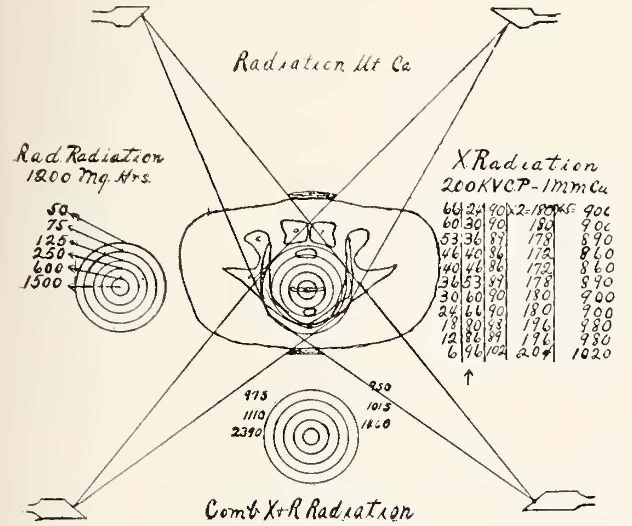


CHART 3

will be added to the roentgen ray T. E. dosage, making a total of approximately 10 to 20 T. E. doses throughout the pelvis as indicated by the centimeter circles in the lower part of Chart 3.

By this technic, we get not a uniform distribution of radiation, but sufficient dosage at all points, except for the highly resistant types. In many cases we may further add to radium dosage with impunity, as I already have by the above dosage, a necrosing dose in the cervix, and added dosage does no harm, but builds up the amounts distant from the cervix, which may need increasing.

SUMMARY

A full T. E. D. is applied to each of four ports, approximately forty-five degrees. Radiation is thus distributed throughout the pelvis by each beam. These four applications are given in two days, frequently in one day, and this is called a series. This series is repeated each seven days until five are given, consuming about thirty days in all, then radium application is made, using from 1200 to 7200 mg. hours, according to conditions then existing.

In many old women and in radiosensitive cases, the five roentgen ray series are all that are needed. In the majority, radium is necessary, and in cervical cases the applicator should be placed so as to reach the lower segments of the uterus and other applicators against the vaginal portion of the cervix.

The roentgen ray dosage in uterine carcinoma may be divided, using smaller dosage frequently applied, until the required amount is administered, after the theory of Freund and the practice of Coutard. This is time consuming and expensive, and in practice I have not been satisfied that it shows any better results than the plan described and which I routinely follow.

DISCUSSION

Dr. Stakely Hatchette (Lake Charles): There is only one thing I would like to emphasize. Large doses of radiation are necessary in treating carcinomas of the uterus and cervix; half-way measures cannot be used.

In some cases where surgery is contemplated a few surgeons are opposed to radiation because of its resultant fibrosis causing increased difficulty of operation. But I believe that any really good surgeon would gladly accept the increased difficulty of operation in order to assure a better prognosis for his patient.

Dr. C. P. Rutledge (Shreveport): I wish to congratulate Dr. Barrow on the thoroughness of his radiation technic. We do not all agree in technic but I think we all agree that we should get in as much dosage as we can without destruction of the healthy organisms or tissue around the growth. A point to be made is that quite a few of these patients can be cured by roentgen ray radiation alone. Some men are strong advocates of this procedure. Many cases require both types of radiation, roentgen ray and radium, but in these cases, I think it is wise always to precede the introduction of radium with sufficient dosage of deep roentgen ray therapy. You get cases of old cauliflower growths of the cervix that, when upon opening the vagina, the blood gushes out and you feel that nothing can be done, but you are wrong, because a lot of such cases have been cured. Some of these cauliflower growths show very great radiosensitivity.

I had a patient referred to me by a doctor seven or eight years ago. The doctor said he felt that I could not do anything for her but I just wanted to see. This was a case sent by an internist. I found a very radiosensitive tumor. She was given deep roentgen ray therapy and the growth melted away like snow in the sunshine. In three weeks' time it was not recognizable. In six weeks' time I gave intercervical radium treatment. The patient was sixty-five years old. You and no one else can now tell that she had had a lesion. These cases are not all hopeless. Certain technic in the hands of some men capable of using it, will give marked relief.

Dr. S. C. Barrow (In conclusion): In the treatment of pelvic carcinoma, both roentgen rays and radium are used. Their action is the same and the technic which will be effective is the one which approaches a uniform distribution of radiation in proper amount throughout the pelvis.

The practice of relying upon biopsies solely for a diagnosis is dangerous.

The practice of scaling down or up dosage, according to a supposed degree of malignancy, is likewise dangerous. If the patient has carcinoma, give the maximum dosage from which the normal tissues will recover. In this way many patients will get well, who otherwise will likely have recurrences.

In radiation treatment of pelvic carcinoma, one must not be afraid, but have courage enough to give the proper radiation despite temporary discomfort to the patient.

THE TREATMENT BY ROENTGEN RAY OF CONDITIONS OTHER THAN CANCER: THE MANNER OF APPLICATION*

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In presenting this paper it is not my intention or claim to present new methods of irradiation or treatment, but I hope to call your attention to the great value of irradiation in many conditions, some of which are refractory to other methods of treatment and which in my experience in many instances respond well to irradiation.

Although some uncertainty still surrounds the action of roentgen or radium rays on inflammatory lesions, the weight of experimental and clinical evidence indicates that the first and major effect of the rays is destruction of some of the infiltrating leukocytes, especially the lymphocytes which have long been known as the most radiosensitive of all cells. Moreover, the destruction of infiltrating lymphocytes which occurs, or at least begins, soon after irradiation probably serves to liberate the antibodies, ferments and other protective substances contained by these cells and to make these substances more available for defense than they were in the intact cells. Destruction of infiltrating leukocytes, also, undoubtedly tends to increase phagocytosis. In favor of this view is the fact that the rate of improvement, including relief from pain, which follows irradiation of acute inflammatory lesions agrees closely with the rate of leukocytic destruction induced in animals and human beings by experimental exposure to roentgen rays. Another significant fact is that favorable results require only small doses—doses too small to have an appreciable effect on other cells.

SENSITIVITY OF CERTAIN TISSUES

I will name some of the tissues of the body in the order of their sensitivity to irradiation as follows: Lymphocytes, leukocytes, ovaries, testicles, spleen, lymphatic tissues, bone marrow, thymus, thyroid, hair papillae, sweat glands, sebaceous glands, mucous membrane, skin, visceral organs, connective tissue, bone, nerves and fat.

The skin is about three times more resistant to irradiation and fat, twenty times more resistant than the lymphocytes and leukocytes which mass and react to inflammation. Therefore one-third erythema may be given to destroy them and disseminate their immune bodies and the skin and fat remain intact. Age and anemia decrease sensitivity. Heat and blood supply increase sensitivity.

It has been my practice in certain chronic inflammations of the pelvis and joints first to give diathermy to produce engorgement, and immediately administer irradiation. Practically all forms of inflammation respond favorably to a greater or less degree to irradiation. The acute forms which mass lymphocytes and leukocytes into localized regions respond best, and the chronic forms which form granuloma or fungoid growth respond best. Since children react to inflammation with lymphocytosis, they respond more quickly, especially around the head and neck. Sinusitis, mastoiditis, otitis media, and tonsillitis will respond readily to proper roentgenotherapy. Adults respond also, but less readily.

DOSAGE IN SPECIFIC CONDITIONS

In most inflammations low voltage, 100 kv. with ¼ Cu 1A1, is sufficient if not superior to higher voltage. The factors in sinusitis are: 140 kv. ¼ Cu 1A1, 50 cm. dist. 105 r's over front—repeated in two days on right and in two more days on left. If associated with bronchitis 105 r's over mediastinal chest. The same dose is then repeated in the same manner, the eyes being protected by lead shields. One hundred and fifty to 210 r's should be given in case of mastoiditis or otitis media according to age of patient and severity of condition. Eustachian tubes and catarrhal deafness may be treated by giving 90 r's over each side at weekly intervals. With advent of dry throat the dose should be reduced to 60 r's on each side.

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*Presented before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 3, 1938, at New Orleans.

A suppurating ear usually dries with 150 r's to 210 r's repeated once or twice at weekly intervals, in children 90 r's. If these doses are repeated the number of r's would be reduced so that an erythema would not be approached.

There is nothing better to rid the throat and pharynx of scattered adenoid and lymphoid tissue, little patches too small for surgery. The chronic hoarse, raucous voice, which is so harsh and such a nuisance to the audience or hearer, can be relieved in the majority of instances with moderate irradiation.

Pelvic inflammations in adults respond well to 150 to 210 r's. Higher voltage and filtration may be used especially if r's are reduced so as not to approach an erythema. Excellent results are obtained in postoperative suppurating wounds with prompt healing. In young women one must not forget the ovaries and not over 150 to 210 r's should reach the ovaries unless sterilization is wanted or desired as sometimes is the case in older women.

If you have never tried roentgen rays in thrombophlebitis you have a treat in store. Severe pain is promptly relieved with moderate dosage and swelling gradually subsides.

Gas gangrene is treated with 100 kv., 5 Ma., distance depending on size of field to cover, giving 100 r's daily until symptoms subside but do not exceed an erythema and give some protection if possible to exposed bones, especially in case of repeated doses. If there is not protection the bone will turn dark. In gas gangrene irradiation of the fluid exudate and gases is said to produce hydrogen peroxide or nascent oxygen which prevents the growth of the anerobic gas bacillus. This oxygen is soon dissipated. Therefore irradiation is repeated daily in small doses.

Many other inflammatory conditions as carbuncles, furuncles, acute mastoiditis or prostatitis are treated in somewhat the same manner. The allergies as hay fever, vernal conjunctivitis and asthma are relieved by small doses repeated.

Erysipelas should be treated with about 100 kv., 1 or 3 mm. Al filter, distance depending on area treated. A wide area should be treated for two reasons. The condition spreads and in streptococcic inflammation there is not so much leukocytic infiltration and a wider area of hyperemic blood supply must be irradiated to throw sufficient immune bodies at the infection. The treatment is very effective but should be repeated if necessary.

Excessive granulation tissue (commonly known as proud flesh) melts away rapidly with suberythema doses of low voltage and lightly filtered rays. Paronychia is probably best treated in the following manner: 68 kv., 3 Ma., 34 cm. dist., unfiltered 60 r's at weekly intervals for four treatments then at two week intervals for four treatments.

Eczema, especially allergic eczema, and pruritus ani and vulvae, are best treated with low voltage unfiltered rays giving moderate doses at weekly or biweekly intervals until the condition subsides. The cases may recur and require further treatment if the etiologic factor is not removed. Factors: 86 kv., 3 Ma., 25 cm. distance, unfiltered 2 min., 120 r's.

Acne is treated in the following manner: 86 kv., 3 Ma., 25 cm. dist. 1 min., unfiltered, 60 r's, 3 views face, repeated at weekly intervals to make a total of 4 treatments, then at two week intervals preferably for only two to four more treatments. Diet and hygienic instructions are also given. The younger the individual, the shorter should the course be.

Other skin conditions responding well to irradiation are: Tinea, sycosis vulgaris, bromidrosis, keloid, favus of scalp, allergic dermatitis, fungus infections and many others. Tuberculosis, extra pulmonary tuberculosis, is probably best treated with a suberythema dose of filtered rays repeated in two weeks.

The leukemias and Hodgkin's disease are treated over the involved glands and spleen with moderate voltage and dosage keeping the disease under control with no attempt to cure for such is not possible; but the patient's life may be prolonged and made more comfortable, therefore he should not be burdened with excessive treatment. The amount and frequency of treatments depend on blood count and glandular and spleen enlargement. It is not necessary to keep high blood counts in leukemia lower than 20,000. If there are widespread skin lesions in Hodgkin's disease or the leukemias then give panteleroentgenotherapy—about 50 r's over large areas from a distance is sufficient if repeated.

Actinomycosis requires heavy doses, the total of which is about one-half the lethal dose for cancer. Be sure that the whole field is covered, even if it must be divided into several fields. Give each field 200 to 250 r's daily with high voltage, filtered rays, until a reaction is obtained. The dose is usually repeated in six weeks; a total of 1,500 to 3,000 r's being given to each field. Factors: 200 kv., ¾ Cu 1A1, 50 cm. dist. Potassium iodide should also be given. For that reason the skin erythema will be reached earlier than in treating cancer similarly.

In treating hyperthyroidism the following factors may be used; 200 kv., ¾ Cu 1A1, 50 cm. distance, 150 r's over each side of neck. This is to get rid of any inflammatory lymphocytic infiltration. Wait two or three days then give 250 r's daily to each side of neck not to exceed 650 R's to each field. Then direct 450 r's at one sitting with a 10 x 10 field caudally down through substernal region over thymus. Treatment should not be repeated for six weeks.

Uterine hemorrhage without demonstrable pathology: Women above 40 can be controlled with the following factors: 200 kv., ¾ Cu 1A1, 50 cm. distance, 480 r's over 20 cm. field both front and back given on 2 successive days or divided into four treatments depending on anemia of patients and other conditions. It is probably more safe in these conditions to do a diagnostic curettage and place 59 mgm. of filtered radium in uterus for 20 to 24 hours followed with one 20 cm. field of x-rays anteriorly, giving 450 r's.

Young women should not receive over 250 r's delivered to the ovaries which would be from 500 to 750 r's delivered externally depending on how thin the subject is. Other means of controlling the hemorrhage probably should first be tried as small doses over the spleen with only 250 to 350 r's externally over lower abdomen.

The pain and swelling in gonorrheal arthritis are quickly abated. The results are spectacular.

Recently I have treated two cases of pneumonia with one-third of lower lobe involved in x-ray film with the following factors: 140 kv., 20 Ma., 50 cm., ¼ Cu 1A1, 15 x 15 field, 150 r's. The temperature was normal in 18 hours in one case and 36 hours in the other case. These doses may be repeated the following day if necessary.

CONCLUSIONS

1. Irradiation is beneficial in most inflammatory conditions and in more than 50 per cent of the lesions of the skin.
2. For success the dose should be small except in tuberculosis and actinomycosis.
3. Irradiation if properly applied is not harmful in any inflammatory condition.

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DISCUSSION

Dr. Stakeley Hatchette (Lake Charles): There are three other conditions I would like to call attention to which may also be successfully treated with roentgen ray. One of them is early selected cases of pulmonary tuberculosis. I have been giving small doses, rather highly filtered, and I have been successful in obtaining fibrotic changes in the lungs in the area of treatment. These fibrotic changes in the areas of infection seem to have stopped the spread of the disease very well for me.

Another condition that I have been treating in the past (I reported a series of 16 cases three years ago in the New Orleans Medical and Surgical Journal) is hay fever. Of those cases treated, approximately 50 per cent are still free of symptoms. I think that the roentgen rays possibly accomplished a desensitization of the mucosa in the nose and nasopharynx.

The third condition is calcified bursae. I use heavy filtration on these cases and give fairly large doses twice a week. In three instances I have been able to get a partial to complete disappearance of the shadow of the bursa. I have four other cases under treatment right now and all are improved or free of symptoms depending on the number of treatments they have received.

Dr. S. C. Barrow (Shreveport): The first thought today in the minds of the profession generally concerning radiology, is malignancy. I am glad that Dr. Barker has brought the question of non-malignancy to your attention. He has explained to you in the beginning of his remarks, I think very scientifically, how the results are gotten. It is a common experience of the profession to have observed in the past that there has been too much radical surgery done in sinusitis. The demonstration here today shows you, in acute cases, what can be done to prevent chronicity later. My experience has been in this work most gratifying along the line of ear troubles. I have seen mastoid cases ordered to the hospital for operation, relieved by radiation. In these recurring abscesses in the middle ear that later go on into mastoiditis, the results in many cases are just what we would like for them to be. In any condition where there is an inflammatory element there is indication for radiation. In some of our compensation cases radiation is being used in lame backs, where no real fractures are present, and even in the presence of fractures there is an inflammatory reaction, which subsides under proper radiation. Not in malignancy alone but in the treatment of cases with an inflammatory basis, should radiation be used.

Dr. D. C. McBride (Alexandria): It seems that radiation therapy has proved to be the rock on the weary land for the weary man. Dr. Barker convinced the profession at Alexandria of the value of radiation therapy in the treatment of many conditions. I would just like to cite one case, seemingly of little value but the case proved to me of extreme value. It is one of puerperal infection which fell into my hands. I tried the usual methods for such cases, blood transfusions and so forth. My patient gradually was passing on. I talked with Dr. Barker about the case and he suggested that we try radiation. The results were marvelous. The patient's temperature lowered and the chills ceased. She began to eat more and picked up and it was not long before the infection was at such a point that we were able to drain the abscess and the patient recovered. I later heard that she had another baby after radiation was given.

Dr. C. P. Rutledge (Shreveport): I would like to congratulate Dr. Barker on his presentation and urge men who are treating such conditions not to wait, as has been the practice in the past, until they have used every method known in surgery or medicine and as a last resort turn to roentgen ray. So many patients come to us after everything else has been used and then we are expected to get miraculous results. As a general rule in these cases, my experience has been that we get our best results when the patients are referred early. This is especially true in carbuncles and furuncles. In carbuncles in a diabetic, I have never received beneficial results. I will continue hoping that one will heal with roentgen ray therapy. Most carbuncles in diabetics are best treated other ways. My experience has been most unhappy in this regard.

Dr. H. O. Barker (In conclusion): I do not want to add anything more except to thank the doctors who have discussed this paper and also to state that I left out some of the paper on purpose because it was too long; there will be other conditions that you will find enumerated in the paper regarding technic used.

I wish to stress again that in inflammatory conditions, small doses are needed and you do not have to give a large dose in any inflammatory condition except actinomycosis and pulmonary tuberculosis.

PRIMARY OVARIAN PREGNANCY

CASE REPORT

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Primary ovarian pregnancy is recognized as one of the rarest forms of ectopic gestation. Reported by Maurice, as early as 1682, authorities through two centuries continued to doubt the occurrence of true cases of this condition. The details of cases described differed so much that Spiegelberg in 1878 formulated four criteria, all of which must be fulfilled beyond the possibility of doubt before the fact of an ovarian pregnancy could be established. These conditions are: (1) The tube (on the same side) must be intact (grossly and microscopically): (2) the fetal sac must occupy the position of the ovary; (3) it must be connected with the ovary by the utero-ovarian ligament; (4) ovarian tissue must be found in the sac. To the fourth condition was later added the stipulation that the tissue must be found in the sac at several places, some distance apart.

In 1899, however, Van Tussenbroek furnished strong proof which was corroborated in 1902 by Thompson that primary ovarian pregnancy, fulfilling all the criteria set down, did occur at rare intervals. In 1909, Norris reported 19 cases, fully proved, with an additional one of his own. Eight years later, after a careful examination of evidence on cases re-

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*Full charts, progress notes and pathologic reports are in the hands of the author.

ported during 1909-17, 22 more cases were accepted as genuine pregnancies of primary ovarian origin, bringing the total to 42. Subsequently 43 additional cases have been reported, bringing the number of cases, noted in the literature available, to 85.

CASE REPORT

The patient was a white woman, 29 years of age, who had one child eleven years old. She was admitted to Hotel Dieu in a state of extreme shock; she was pallid and complained of severe pain in the lower pelvis. Her pulse count was 160-180 and was almost imperceptible.

Menstruation had last occurred six months previously. Upon vaginal examination, a viable fetus could be felt in the posterior cul-de-sac. Marked contractions of the uterus were present and the cervix uteri could not be seen. By use of a bivalve speculum, it could be felt under the symphysis of the pubis. The uterus was markedly retroflexed and fixed in the pelvis. Severe pain under the left scapula was attributed to copious intra-abdominal hemorrhage. Blood pressure and urinalysis were reported as normal. Dr. J. T. Nix, called in consultation, confirmed the tentative diagnosis of threatened abortion, and every effort was made to prevent this if possible. The blood showed total white cells, 14,000; red blood cells 2,740,000 and hemoglobin 45 per cent.

Following a night's rest, the patient felt better. Her blood showed 18,750 white cells, with 83 segmented cells. Five hours later, however, the abdomen again became distended and the patient complained of severe pain in the lower pelvis. Suspecting the rupture of some viscus in the abdomen, laparotomy was deemed advisable.

After infusions, the patient was placed in the Trendelenburg position and under gas anesthesia, a midline incision was made from the pubis to the umbilicus. Upon opening the peritoneal cavity, a quantity of free blood could be seen. Thorough examination of the right lower pelvis proved negative. The upper abdomen was walled off with warm five-yard, saline packs; suction apparatus was employed for the removal of fluid and on the left side, deep in the pelvis, blood was found to be freely exuding. A five or six months' fetus was removed, which lived for five minutes after delivery, then expired. The head had been deeply impacted in the pelvis. The tube on this side could easily be seen, and was entirely free from involvement. The ovary was found to be ruptured and a placenta the size of a man's hand was freed from the body of the uterus and from the left posterior cul-de-sac, from which the blood supply had evidently been derived for the nourishment of the large fetus. The entire area was thoroughly cleansed, all bleeding points were carefully sutured, and after the removal of most of the clots, a small amount of the free blood in the cavity was left in situ. The abdomen was closed in the usual manner, using chronic catgut for subcutaneous sutures and silk worm gut for the skin. The patient left the table in fair condition.

About four hours following the operation, the patient developed a severe bronchorrhea, which improved after treatment with a mustard poultice, atropine and digitalis. Gastric lavage every three hours was productive of brownish green mucus through the tube. An indirect transfusion of 500 c.c. of citrated blood was followed by a severe chill; temperature 105°, falling gradually. Prostigmin was administered to stimulate normal peristalsis. The restlessness subsided by the folowing day and the patient was given gruel and warm drinks. Twenty-four hours later a second transfusion of 500 c.c. of citrated blood was given, which produced no reaction. Temperature 103.6°; pulse 160. The patient's general condition was less favorable. Cardiac stimulants and 10 per cent glucose infusions were instituted, and some improvement ensued. The following day found the patient very restless. The abdomen was flaccid and the temperature was rising. Death occurred suddenly in the late afternoon. No autopsy was allowed. The cause of death was judged to be cardiac dilatation and acute tubular nephritis, contributing to a ruptured ectopic pregnancy of six months' duration, hemorrhage and shock.

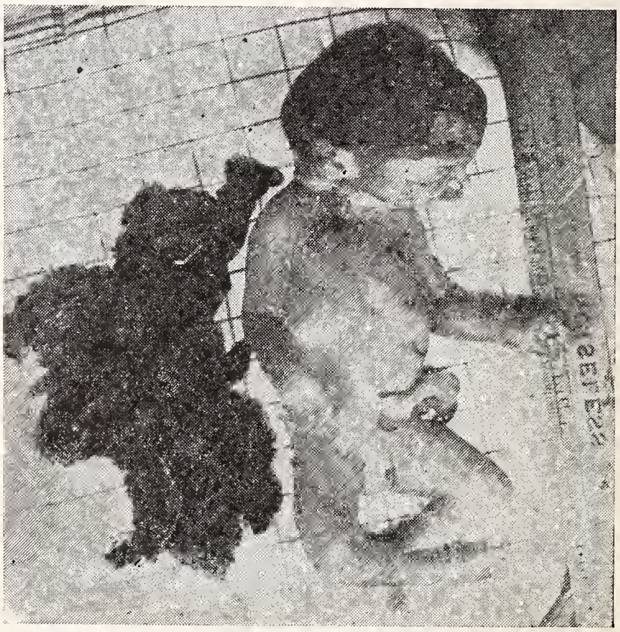

Fig. 1. Photograph of Specimen.

Pathologic report: The specimen consists of a female fetus, having a crown-heel measurement of 35 cm. The head is markedly compressed and bulges downward. There is a small lacerated area in the region of the anterior angle on the left side. The left hand is distorted, otherwise the gross examination of the body showed nothing remarkable. Many large masses of ragged tissue, red in color, and granular in appearance, can be seen, mixed with a few large shreds of thin smooth membrane, apparently placenta. The pathologic diagnosis is ectopic (intra-abdominal) pregnancy. Placental tissue shows hyalinization and interstitial hemorrhage in many areas.

CAUSE OF OVARIAN PREGNANCY

Primary ovarian pregnancy is said to occur when fecundation of an ovum takes place while it is still confined within the graafian follicle. Caturani believes that the condition results from ovarian inflammation, especially periovaritis. The duration of ovarian pregnancy may be longer than that of other types of extra-uterine gestation, because of the different nature of the tissues which surround the embryonal sac. According to Norris, the gestation may terminate in one of three ways: (1) Rupture into the peritoneal cavity with hemorrhage and death of the fetus; (2) rupture of the sac, with secondary ovario-abdominal pregnancy; the placenta remains attached to the ovarian parenchyma; (3) rupture with secondary attachment of the ovum and abdominal pregnancy secondary to primary ovarian gestation.

Ovariotomy is the treatment of choice, with the removal of the tube in most cases. It is thought that some ovarian pregnancies go on to the formation of a lithopedion, when a dead fetus becomes in time more or less completely calcified. Preoperative and postoperative care are essentially the same as in other cases of ectopic gestation.

SUMMARY

1. A case of ruptured ovario-abdominal pregnancy is presented.
2. Vaginal findings revealed a markedly retracted cervix, high under the symphysis, with severe tetanic pains and fetal movements. Severe shoulder pain and tenderness over the uterus indicated intraperitoneal hemorrhage.
3. Preoperative differential diagnosis was uncertain.
4. Ovariotomy was performed with removal of the tube and the entire placenta, which had no attachment to bowel or omentum.

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THE PATHOLOGY OF CERTAIN UNUSUAL OVARIAN TUMORS*

HERBERT J. SCHATTENBERG, M. D.†
NEW ORLEANS

Within recent years, due to a better understanding of the embryologic development and histology of the ovary, certain tumors have come to be recognized which heretofore, in many instances, have been incorrectly diagnosed. This discussion will be limited to those tumors whose origin is closely related to embryologic anomalies in the development of the ovary.

At an early stage and until the embryo is 14 mm. in length, it is impossible to differentiate the gonadal structures from a sexual standpoint. Histologic elements are present which possess the potentialities of being converted either into testes or ovaries and the various appendages that go with these. Should the chromosomes decide sex in favor of a female then the sex gland becomes an ovary and the histologic structures present with testicular possibilities should undergo atrophy and disappear. This atrophy or retrogression of male elements does not occur, however, in every instance as it should and this is the explanation offered for the occurrence of the arrhenoblastoma of the ovary. This is one of the tumors under discussion and results, as shown by Meyer[1], from embryonic testicular remnants, consisting of tubules or Leydig cells in the ovary. Furthermore, the sex gland may contain cellular elements which are undifferentiated and develop in neither direction, male or female. In other words the cells are disgerminal and give rise to what is called a disgerminoma. The peculiarities of this tumor are well described by Geist.[2] The third type of tumor to be discussed also springs from undifferentiated cells which primarily belong to some other part of the urinary system as lining epithelial cells. They have become dislocated and are found as "cell-rests" in the ovary, the so-called Walthard cell nests which are the forerunners of Brenner's tumor (Brenner,[3] Smith,[4] Schiller[5]). The fourth type of ovarian neoplasm under discussion is the granulosa cell tumor. This arises from some of the ovary's own granulosa cell nests which embryologically may be considered defective. This histogenesis of this neoplasm is well discussed by Te Linde[6] and Novak.[7]

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TYPES OF OVARIAN TUMORS

This then in a very brief way gives the histogenesis of the four interesting and unusual types of ovarian tumors, namely: (1) arrhenoblastoma, (2) disgerminoma, (3) Brenner's tumor, and (4) granulosa cell tumor. A short discussion of the main pathologic and clinical features of each follows.

Arrhenoblastoma (arrhenos=male): Pathologically two types may be recognized, one which is poorly differentiated, almost looking like a sarcoma, and may arise from interstitial testicular cells; the other which is well differentiated and mimics tubular formations, also called "adenoma ovarii testiculare" of Pick. Grossly the latter is usually small, firm, round and well encapsulated. The undifferentiated arrhenoblastoma is usually larger, softer, lobulated, yellowish and shows areas of hemorrhage or necrosis. Clinically, the arrhenoblastoma because of liberating a testicular hormone, testosterone, is very interesting. The woman becomes masculine, i. e. grows a beard, becomes muscular and stocky, develops a male voice, may not be interested in opposite sex, develops hypertrophy of the clitoris almost the size of a penis and stops menstruating. When the tumor is removed the patient again becomes feminine, starts to menstruate, may again be interested in the opposite sex, and may even become pregnant. Only a fair percentage of arrhenoblastomas examined have been reported malignant. Clinically only one third of the cases of "adenoma ovarii testiculare" show signs of masculinization. This type is relatively benign.

Disgerminoma: This tumor has been called seminoma ovarii due to its close resemblance to the so-called seminoma of the testis. The patient is usually young and the tumor is common in pseudohermaphrodites, cryptorchids and those with poorly developed gonads. Pathologically, the tumors may be of enormous size, are peculiarly kidney shaped, solid, though doughy in consistency, and often show areas of hemorrhage and necrosis. Clinically these patients show no signs of feminization or masculinization since no hormones are liberated by the tumor cell. The tumor is bilateral in 20 per cent of cases. The prognosis is good if the tumor is removed early.

Brenner's Tumor: This neoplasm was first described by Brenner in 1907 as oophoroma folliculare. Clinically it is benign, almost invariably unilateral and 50 per cent of the cases reported are in women over 50 years of age. Usually the tumors are small but may be as much as 25 cm. in diameter. Pathologically two types, A and B, are recognized. The former is of a stony hardness and without gross cystic formations. The latter tumor is definitely associated with cystic formations. Histologically Brenner's tumor is characterized by epithelial cell nests, cystic areas, and an abundance of connective tissue which often shows areas of hyaline degeneration and calcification. The cysts often are lined by columnar pseudomucinous epithelium.

Granulosa Cell Tumor: This is the most common and best known tumor of the group under discussion. It was first described by V. Kahlden as "adenoma of the graafian follicle." These tumors occur at any age, but more often during active reproductive life and in 10 per cent of cases are bilateral. They also constitute 10 per cent of all primary neoplasms of the ovary. The tumor cells produce a large amount of estrogenic hormone which in old women causes a re-establishment of menstruation. When such a tumor develops in a child the hormonic effects is pronounced and there is noted precocious puberty, breast development, premature menstruation, early growth of genital hair and an accelerated skeletal growth. These clinical criteria disappear when the tumor is removed, due to loss of estrin.

Pathologically two distinct types of granulosa cell tumors are recognized, the folliculoid and cylindroid types. They vary in size from 5 mm. in diameter, to masses as large as an adult head, usually of soft consistency, encapsulated and of a light yellowish color. Due to the action of estrin the endometrium is usually thickened and hyperplastic. When unilateral these tumors are usually benign, when bilateral usually malignant.

SUMMARY

(1) A short discussion has been given of a group of primary ovarian tumors which can be traced to embryological defects and which in many instances in the past have been incorrectly diagnosed as fibroma, carcinoma or sarcoma.

(2) The disgerminoma and Brenner's tumor are without hormonal effects. The arrhenoblastoma and granulosa cell tumors produce specific endocrine substances, the former causing thereby masculinization while the latter causes feminization.

(3) Endometrial hyperplasia in case of granulosa cell tumor is due to estrin production. When associated with uterine bleeding in a woman past the menopause this tumor should be suspicioned.

(4) Adrenal "cell-rests" (hypernephroma) of the ovary are not altogether uncommon and the clinical features parallel those of arrhenoblastoma. Histopathologic examination differentiates the two.

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AN IMPORTANT MEETING

There will be held in Washington, D. C., the middle of July, a meeting which should be of extreme importance to the medical profession. This meeting is called by Miss Josephine Roche as Chairman of the Interdepartmental Committee to Coordinate Health and Welfare Activities of the Federal Government. Its purpose superficially is an excellent one, namely to weave together the various departments in the Federal Government which have to do with the care of the sick and the health of the nation as a whole. The real intent of the Committee should be to avoid duplication of effort and work in the different Federal departments to which various phases of the health of the nation have been delegated.

While superficially the purposes of the meeting are excellent, there is grave fear in the minds of many thinking physicians who have the best interests of the medical profession at heart, that the purpose of the meeting is not so much to carry out its suggested purposes but rather to turn the meeting into a means of establishing State Medicine. In other words, it may be the first gun of a sincere effort to organize and institute State Medicine. The American Medical Association will have certain important representatives in attendance but there have been invited also a large group of other individuals whose interest in medicine is peripheral rather than central. They have grand ideas and grandiose schemes for the care of the indigent. They probably will outnumber by far members of organized medicine and will be in a position to put over pretty much anything they wish.

Miss Roche was to have read a paper before the House of Delegates of the American Medical Association. She prepared this paper but was unable to attend and her place was taken by Assistant Surgeon General Draper of the United States Public Health Service. Miss Roche is undoubtedly a woman activated by the highest motives but it is the feeling of many medical men that the recent national health survey of the Public Health Service, upon which she predicated and based most of her statements, does not bring out the true picture of illness and the effect of illness throughout this country. It is very easy to believe that the obvious fact that the lowest income group have more days of disability per capita than do the relatively well to do, but it is not right nor fair to assume that this is due to inadequate medical care. Rather it would seem more proper to state that improper housing and inadequate food are the responsible factors. Likewise it does not seem that there are twenty millions of people in this country who do not have available hospital facilities. On the contrary the American Medical Association has statistics which show that there are less than two million people in this country who are farther than thirty miles from a hospital where attention would be given to the poor man as well as the well to do. Most of these two million people are in communities where there are as few as five or ten people living in a square mile, in other words in the great vast, poorly inhabited sections of the country. With the excellent good roads that are now existing throughout the United States it will be possible for any person, except the very small percentage of people in the wilds to obtain hospital service in an emergency in a very short time. Furthermore in case of chronic disease it is possible to have hospital care except for a very few instances. Here in Louisiana our state hospitals take care of the difficult and problem cases in very large numbers. Additional facilities are being provided by the state government in the form of hospitals established in different sections of the state other than the extreme north and extreme south. It seems almost unbelievable that a Louisianian cannot get good medical care. He can and does; the state provides it through its hospital service which has been running for many decades.

Because of the necessity of having exact facts, it is of extreme importance that the medical profession cooperate wholeheartedly and conscientiously with the Bureau of Economics of the American Medical Association in collecting the necessary facts which have to do with medical and dental practice, nursing service, medical services arranged through relief agencies and many other data which will give a true picture of medical care in this country. The parish medical societies' secretaries will probably have to bear the brunt of this cooperative effort of organized medicine. It will be a hard job, and time consuming, but it should be done. Many state and county societies have already gone into this survey wholeheartedly. Some of the county societies have acquired part time help to aid the county society secretary. For example, in Birmingham, the Jefferson County Medical Society has appropriated $500 to help defray the expenses necessary to make the survey. If all parish (county) and state societies back up the American Medical Association in this way organized medicine will have definite figures, definite facts and positive information to refute the frequently wild statements of those whose minds are inclined to the regimentation of everything, be it through a Nazi or communistic groove.

ECHOES OF THE ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION

The recent meeting of the American Medical Association in San Francisco was characterized by a feeling of good will and good fellowship among the official delegates and the members at large. This is said advisedly in spite of the efforts made by the lay press to suggest that the meeting was held over a volcano and that it was only through the most strenuous efforts of certain members that there was no eruption. This is far from the truth. Everything went along smoothly and equitably. Never has this organization, which represents the great body of medical profession in the United States, been more sure about their point of view and their attitude toward social, economic and scientific questions than it is now.

The new President, Dr. Rock Schleyster of Wisconsin, was elected without opposition. The meetings of the House of Delegates were smooth and without controversy. The scientific program was excellent and the scientific exhibit was splendid.

It is unfortunate that the newspapers seemed to think that there was some schism in the ranks of the medical profession. Such is far from the case. The medical profession realize and appreciate that these are times of change and that social conditions of today are not what they were five years ago. A small minority of membership think that the great bulk of the socially submerged should be taken care of by more or less direct subsidies from the United States Government or from the state governments. The great majority of the profession, however, feel that they are the ones best qualified to take care of this problem. They do not feel that there has been any real neglect of the people on relief. They realize and appreciate that these people must be helped. The medical profession has always, in this country, stood for honesty and square dealing with the patient, be he rich man or poor. Feeling as they do about the sanctity of their profession, they necessarily feel that one of the gravest mistakes which might be brought about in this country of ours would be the placing over medical men people who are not imbued with the ideas that the medical profession hold sacred. If the management of the medical profession was to be put into the hands of others, and undoubtedly it would be, were socialized medicine so-called to become an accomplished fact, then the profession feels that not only will it suffer but the public as a whole and more particularly the man for whom such social changes were intended.

INVITING THE DOCTOR TO DINNER

A prominent physician in the East recently told the United Parents Association in New York that it would be a good idea to have the family doctor in to dinner from time to time so that the physician would get to know his clients socially as well as professionally. He would thus become acquainted with the background of the family, know something of its morals, its fads and its foibles.

In commenting on this suggestion one of the metropolitan dailies says that the average doctor knows the temperamental foibles of his patients without having to go to their homes to see how they behave. Certainly to quote this authority "He knows better ways to spend his free time." A second very good thought in this particular editorial comment has to do with the money owed to doctors. It says that if most of them were paid all that was due them they would be able to retire but it seems quite likely that the debt may further be put off, or not paid, if the doctor drops in to dinner and credit was not given for a meal that was served. Furthermore, the doctor could expect and anticipate that he would be called upon to give a considerable amount of gratis medical counsel. Many doctors would suspect the dinner invitation to be merely a chance to have the tonsils inspected free or to have an opinion on a proposed operation.

The social relationship between physician and patient is, in many instances, a delightful and pleasant one, but most physicians feel, with the exception of a few congenial friends, that the social and professional side of the practice of medicine should be sharply divorced and separated. The average doctor can find out by inquiry and observation about the family that is under his care without having to feel under obligations for a meal that is served or in debt for some social obligation which he might possibly have accepted merely to avoid hurting the patient's feelings.

NICOTINIC ACID AND PELLAGRA

The recently reported results in the treatment of pellagra with nicotinic acid have fixed attention on the use of this drug. Those who have had the opportunity of administering nicotinic acid to pellagra patients with the active phase of the disease, have been struck by the very prompt relief and amelioration of some of the symptoms at least. For example, the mouth condition and the mucosal involvement of the lower gut yield to the drug with a promptness which is astounding. The mental symptoms are not as quickly affected but the skin lesions are markedly benefitted.

It having been discovered that nicotinic acid is extremely useful in the treatment of pellagra, naturally it followed that the drug should be studied by biochemists, pharmacologists and bacteriologists. A recent paper by Kosher, Dorfman and Saunders[1] on this substance states that evidence seems to show it is a compound of great biologic significance. One bacteriologist, Knight, notes in his studies of Staphylococcus aureus that the combination of nicotinic acid and vitamin B was effective in taking the place of the yeast concentrate. Neither could work without the other, but when both were applied to the medium the staphylococcus grew beautifully. Another observer noted that nicotinic acid could replace some of the fractions obtained from liver. The present authors find that dysentery bacilli may be cultivated with the use of nicotinic acid and that it is "strikingly effective" even when no other accessory factor is added. They note that this substance can replace gelatin and tissue extract preparations of the spleen and liver.

Those few observations indicate that this drug recently applied to the treatment of pellagra exerts a profound effect on the human organism. The ways and means of doing this have not yet been discovered, but, undoubtedly, new facts and new data will develop in research laboratories which will show why this very common and quite cheap acid is effective in curing or relieving some of the symptoms of pellagra.

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HOSPITAL STAFF TRANSACTIONS AND CLINICAL MEETINGS

HOTEL DIEU

The regular monthly meeting of the Staff of Hotel Dieu was held in the Nurses' Lecture Room of Hotel Dieu on Monday, May 16, 1938. The meeting was called to order by the President, Dr. A. D. Mouledous, and with the Secretary, Dr. C. E. Gorman, at the desk.

The Scientific Program consisted of: 1. Clinicopathologic Conference.

The cases presented are interesting more because of the diffuse pathology that each presents and thereby furnishing opportunity for fine points of physical diagnosis. In both cases by careful and minute study it would have been possible to diagnose correctly the pathology found at autopsy. These cases were, really, wonderful samples for teaching.

The first patient was a little girl, aged ten years, whose family history, habits and past health were irrelevant except for repeated attacks of tonsillitis and that she was always more or less frail of stature. Her present illness dates from some vague injury to her back with progressive weakness, marked anemia, painful purpuric spots on finger tips, toes, back and eyelids, edema of face, and sudden exaggeration of symptoms with left hemiplegia. The temperature ranged from 101.2° on admission to 104.2° and was septic in type.

On physical examination there are harsh sounds throughout both lungs. The heart is enlarged and reveals a presystolic, systolic and diastolic murmur at the apex apparently transmited from the aortic area. Abdominal palpation reveals an enlarged liver and moderately enlarged spleen.

The laboratory findings: red blood cells 2,300,000; white blood cells 7,500; hemoglobin 35 per cent; color index .76; marked poikilocytosis, anisocytosis, polychromatophiles and endoglobular degeneration. The blood chemistry and feces were negative. The blood culture showed Streptococcus viridans after 120 hours' incubation. The urine showed albumin, casts and blood cells.

Progress: Admitted April 19, 1938. Condition very bad, abdomen distended, paralysis not improved. She became dyspneic on April 21, 1938; became cyanosed, weak and rapid and shallow pulse which became worse in spite of proper medication and patient expired on April 22, 1938.

Autopsy: The body was pale with numerous large and small purpuric spots on torso, limbs and conjunctiva. Left pupil larger than right. Blood in external auditory canal. Veins of the neck were prominent and hard. Marked emaciation. Both knees ankylosed to 60° flexion. Bilateral ankle edema. The left arm flexed about the elbow and the hand contracted (clawhand). The abdominal cavity: About 400 c.c. clear fluid; omentum surrounds the spleen and firmly adherent; the spleen was bound down to posterior abdominal wall. The thoracic cavity: All organs in nomal position. About 100 c.c. clear fluid in right pleural cavity; none in left. Normal amount of fluid in pericardial cavity and surface smooth. No ante mortem clot in pulmonary artery. Lungs: Evidences of probable bronchopneumonia. The heart weighed 200 grams. Tortuous superficial veins but surface smooth. Right heart chambers and valves negative. Left heart wall showed mural thrombi in auricular appendage and numerous reddish grey and granular vegetations on the mitral valve and on the endocardium immediately above the valve. The aortic valve was normal. The heart wall pale, soft and flabby. The liver not enlarged, buff color with red margins to lobules and the tissue soft and greasy. The gallbladder is negative. The spleen is enlarged and adherent by old and recent adhesions to omentum and abdominal wall. The outer surface shows numerous large reddish blue, yellow and white infarcts occupying more than one-half of the spleen. The infarcts are mostly soft. The kidneys show several typical wedge-shaped infarcts, some dark red and others mostly soft and white in color. The kidneys are otherwise congested. The adrenals, gastrointestinal tract, pancreas, bladder and generative organs are negative. The brain shows slight excess of clear fluid in subdural space. The vessels are mostly injected. There are three definite ecchymotic spots.

Diagnosis: Subacute bacterial endocarditis (Streptococcus viridans); bronchopneumonia; chronic passive congestion of lungs; infarcts of spleen and kidneys; cerebral infarcts.

The second case that we will present is one that may be misleading because of the history given by the patient of a former complaint and operation some time back. A very plausible diagnosis and cause of death was made but which would have been more accurate had the surgeon time to explore the abdomen.

The patient, an unmarried woman of 39 years, was admitted for exploratory laparotomy on April 25, 1938 and expired four hours later. The attendant had seen her for the past ten days, during which time the patient was already weak and continued to be so during this time. She had lost eight pounds in the past month, had had frequent fainting spells, marked pallor, weak thready pulse, air hunger and pain in the lower abdomen the night before admission. Moist rales were heard throughout the chest with evidences of edema. The heart was rapid but otherwise negative. Other abdominal organs were negative except that two tumor masses about the size of an orange were felt on the right and left side of the uterus and were thought to be fibroids. On admission, her breathing was labored and her extremities cold. She had been operated on in France for what she was told was a peptic ulcer. Her blood pressure was 108/72. The temperature was subnormal, 97°, the pulse 120, and respiration 30 per minute. Red blood cells were 2,020,000; hemoglobin 46, and color index 1.1 with poikilocytosis, anisocytosis, polychromatophilia and normoblasts; leukocytes 20,250 with 84 per cent neutrophiles, of which 7 were stab cells and 2 metamyelocytes. A trace of albumin and an occasional cast were found in the urine. A tentative diagnosis of hemorrhage from peptic ulcer was made.

Autopsy Findings: The body was fairly well nourished, pale, cervical lymph nodes slightly enlarged and discreet. The breasts are negative for tumors. An old scar from an upper paramedian operative incision is present on the abdomen.

The abdominal cavity is moist but no blood. The transverse colon, peritoneum and omentum are adherent by fibrous bands to the operative scar. These have kinked the colon slightly. The pyloric end of the stomach has been removed at an old operation and the posterior surface of the stomach attached and opened into the transverse mesocolon. Mesenteric nodes, remaining gastrointestinal canal, liver, pancreas, spleen and kidneys show nothing of note. The stomach and duodenum are carefully searched for ulcers or tumors but none are found. The retroperitoneal lymph nodes are all enlarged and on section show opaque cream colored areas scattered in the tissue. Both lungs are generally firm in consistency and rather heavy. Considerable dark red fluid is expressed but no definite areas of consolidation are found. The heart is slightly enlarged. No clot is found in the pulmonary artery. The heart chambers are distended with blood, especially the right. The heart wall is thinned out and the muscle somewhat friable. The pelvic organs: The uterus is freely movable. The right ovary is replaced by a nodular, firm tumor mass about 10 cm. in diameter, grayish pink to yellowish pink in color with a few areas of a dark red. The tube is stretched over the outer surface but otherwise shows nothing of note. The left ovary is replaced by a similar tumor mass about 6 cm. in diameter. The cut surfaces of these masses are grayish pink to red in color and present a rather whorled fibrous appearance.

Diagnosis: Gastrectomy (pyloric end) old; gastroenterostomy (old); metastatic carcinoma of right and left ovaries (Krukenberg tumors); metastatic carcinoma in the retroperitoneal lymph nodes (glandular origin); metastatic carcinoma of lungs (microscopic) with extensive edema; granular and fatty degeneration of heart with dilatation.

Dr. Lucien A. Ledoux presented a case report of ruptured hemorrhagic ovarian follicle complicated by acute appendicitis.

S. Z., white female, aged 15, was seen in October, 1937 complaining of pain in the left lower abdomen which had come on suddenly. She had menstruated in April, July, and September of 1936 and September, 1937. The diagnosis of ruptured hemorrhagic ovarian follicle on the left side was made. Several days prior to her first visit she had been troubled with a severe intestinal toxemia. She was sent to the hospital. Shortly after being seen the following morning the pain on the left side subsided with the development of acute abdominal pain in the lower right quadrant. This resulted in the diagnosis of acute appendicitis complicated by a ruptured ovarian follicle on the left side. Exploratory emergency laparotomy revealed these findings to be correct. She had an acute suppurative appendix and the left ovary was enlarged and contained a large corpora hemorrhagicum. The right ovary was completely cystic. Both ovarian cysts were removed in addition to the appendix. The postoperative course was uneventful. The patient has been under periodic observation up until this time. A significant thing is that she has never shown any of the usual symptoms that are so commonly associated with a surgical menopause.

The original case report was published in the Americal Journal of Obstetrics and Gynecology.

HUTCHINSON MEMORIAL CLINIC

Scientific Session conducted by the Department of Pediatrics, Dr. R. A. Strong presiding.

General Remarks on Congenital Heart Disease (Dr. R. A. Strong): From the standpoint of etiology, the great majority of cardiac ailments fall into one of four groups. These groups are congenital abnormalities of the heart, rheumatic heart disease, cardiovascular syphilis, and degenerative lesions of the heart. Each of these four groups has a more or less definite age distribution. Thus congenital cardiac anomalies, present at birth, represent practically the only form of heart disease during infancy and early childhood. From the fifth to the fifteenth year, active rheumatic infection of the heart is frequent. Those who survive the childhood period of active infection go into adult life with varying degrees of heart damage and constitute a large group of chronic cardiac invalids during the third and fourth decades of life. In the forties, syphilis of the heart and aorta has its greatest incidence, though it is by no means limited to this age period. In later life, degenerative changes of heart and vessels rank first in frequence and importance.

It is obvious, therefore, that heart disease in childhood is rather sharply differentiated from heart disease in the adult. With the cardiac disability produced by long-standing rheumatic heart disease, with cardiovascular syphilis, and with degenerative lesions of advancing years, the children's specialist has practically no concern. But congenital abnormalities of the heart and the early stages of rheumatic heart disease are so essentially childhood conditions that the pediatric approach is important for their proper understanding. We have the opportunity to bring to your attention a case of congenital heart disease, which Dr. Williamson will present.

Remarks and Presentation of Cases (Dr. G. R. Williamson): The etiology of congenital heart disease may be divided into two closely related groups: (1) An intra-uterine condition of genetic origin, that is, one in which a parent may have had a rheumatic infection, and (2) a faulty development of the organ, which generally begins as early as the fifth month. Prior to the fifth month, the heart is comprised of one chamber. At this time, it quickly divides into two. Maude E. Abbott classifies congenital heart cases into: (1) those that show no cyanosis; (2) those with intermittent cyanosis, and (3) those with permanent cyanosis. Cyanosis, though not necessarily a part of congenital heart disease, may be due to the mixture of venous and arterial blood, to deficient oxidation from some circulatory interference, and to a change in the blood, polycythemia, which may be regarded as a compensatory factor when deficient oxidation is present. Other physical signs of congenital heart disease are clubbing of the fingers and toes and delayed development, described sometimes as cardiac infantilism, the underlying cause of which is found in the general law that if the functional efficiency of any vital organ is seriously interfered with during the developmental period the growth of the child is delayed. The symptoms of congenital heart disease are breathlessness, attacks of paroxysmal dyspnea, which may be accompanied by paroxysmal tachycardia, and recurrent attacks of syncope and pain.

The term "dextrocardia" is given to a condition in which the heart is transposed to the right side of the thorax. It was recognized as an entity in the early days of medical investigation, and the first case reported in the literature is credited to Petrus Leviis, in Rome, in 1643. It is believed to have an incidence of one in 10,000. Dextrocardia is further described as "isolated" when the heart alone is completely transposed, and as "complicated" or "uncomplicated" to denote the presence or absence of other congenital malformations. Nagel Agerman, in 1909, proposed two classifications of the condition: The first, a true mirror-picture, in which the heart is reversed or transposed to the right side, with the apex pointing to the right, and all the structures of the organ are in the same anatomic and physiologic relation to one another as they would be on the left side; and the second, congenital dextrocardia due to arrest of development.

The first case which I wish to present tonight is that of an 18 month old baby with an isolated dextrocardia. This is an unusual case in which the heart and the cecum are transposed, while the liver and stomach are in their proper places. The cardiac condition was discovered when the baby was only five weeks old. He is under weight, has rapid breathing, is able to walk, but becomes cyanotic on too much exertion. There was evidence of an enlargement of the thymic gland, for which treatment has been given. The roentgen ray of the heart of this baby shows it to be in the shape of a boot, the so-called "coeur en sabot."

The second case is that of a little girl eight years old. This patient was cyanotic at birth and the attending physician had difficulty in getting respiration started. She has remained cyanotic up to the present time. Exercise, of course, increases the cyanosis, as well as causes dyspnea, palpitation and precordial pain. The patient's appetite has always been poor and her general development and nourishment have, therefore, suffered considerably. She is a very nervous, apprehensive child. She has had several childhood diseases, including measles, mumps, pertussis, and pneumonia. A brother of the patient died twenty-seven hours after birth and at autopsy was found to have a dextrocardia and a diaphragmatic hernia.

This little girl presents several interesting features on physical examination. There is marked cyanosis of the lips, ears, nose, mucous membranes and skin in general. The heart is definitely enlarged to both the right and left, and there is a loud systolic murmur that is heard over all the valvular areas. The liver edge is palpable about 5 cm. below the right costal margin. There is marked clubbing of both the toes and fingers.

An electrocardiogram on January 9, 1936, revealed a sinus tachycardia, marked right axis deviation, prominent P_1 and P_2, vibratory QRS_2, Q_3 present, T_3 inverted. Other laboratory findings on April 21, 1938, revealed a red blood count of 10,320,000, a hemoglobin of 100 per cent, white blood count of 10,000, small lymphocytes 31 per cent, and neutrophiles 57 per cent.

A roentgen ray taken on April 21, of this year, reveals marked enlargement of the heart, and was suggestive of bilateral chronic, passive congestion of the lungs. A roentgen ray of the extremities revealed no bone changes.

A great number of patients with congenital heart disease die in the first few weeks, and if they are deeply cyanosed, there is not much chance of prolonging life. However, if they live beyond this early period, prognosis should await the development of the case. It is possible for the imperfection in fetal life to be repaired by a fuller development in postnatal life, or the defect may become a permanency. Intercurrent disease, especially of the respiratory organs, often proves fatal in these cases, as do blood infections, which are likely to attack the weakened parts of the heart and lead to endocarditis. There is little to be suggested in the way of treatment, except that its course should be guided by the symptoms of the individual. It is well not to place too many restrictions, but rather to allow older children to develop their own reasoning powers in order to regulate their activities according to the discomfort which accompanies them, and they will seldom over-exert themselves. A large percentage of patients, however, remain hopelessly crippled from birth, and these require nursing and feeding, sunshine and protection from infection.

Anemias of Early Life (Dr. R. A. Strong): A sufficient number of studies have been made in the past decade upon which to base a fairly accurate conception of blood production from early fetal life through the period of transition which begins when the baby takes its first breath and ends when the blood picture becomes what is generally recognized as normal. Many interesting things occur during this period. The changes which take place may proceed in accordance with what the present state of our knowledge suggests is normal or we may encounter evidence of interruptions in this normal sequence of hematopoiesis and hemolysis for which we have been unable to discover entirely satisfactory causes.

It seems to be quite definitely established that the production of erythrocytes is not entirely confined to the bone marrow during fetal life, because there is ample evidence that there are extramedullary centers of erythrogenic tissues located throughout the reticulo-endothelial system and red cells are formed in the liver, spleen, and lymphatic tissues generally and sometimes even in the kidney. This is evidenced by the interesting changes which occur both in the type and quantity of cells which are observed in the blood smears taken at intervals in the newborn until the normal standards are reached.

Blood Characteristics of the Newborn: It has been quite generally observed that the color of the blood at birth is a darker shade of red than in later infancy and childhood. This is due to the increased amount of hemoglobin as well as erythrocytes which are present in the period of the newborn. The hemoglobin content has ranged from 117 per cent to 97 per cent in the first ten days of life or expressed in grams of hemoglobin, in 100 c.c. of blood with an erythrocyte count of 5,000,000, from 18.8 to 15.4 grams. The erythrocyte count in the first ten days of life varies between 4,000,000 and 8,000,000 and in the first few days of life, is usually in excess of 5,000,000. The most plausible explanation for this increase in the number of erythrocytes as well as hemoglobin, is that the infant *in utero* is developing in an environment of low oxygen tension exactly as in adults who live at high altitudes. In both instances, it is necessary for the erythrocytes, the carriers of oxygen, to be present in increased numbers so that tissue respiration may be adequately maintained. After birth, when the baby acquires its own oxygen by breathing an atmosphere having a much higher oxygen tension, all of the erythrocytes above the conventional 4 or 5 million become surplus, and as a consequence, are destroyed by hemolysis. This hemolytic destruction of the surplus red cells may result in the formation of bilirubin and the jaundice which not infrequently develops is ordinarily spoken of as icterus neonatorum. The fall in hemoglobin and red cells is usually rapid in the first week or two of life, when both level off to the usual amount and number seen in the average healthy baby. However, both may continue to decline beyond this point for the first six weeks of life, when a low point is reached. When this occurs, an anemic state is reached which is spoken of as a physiologic anemia of the newborn. As a rule, this anemic state lasts only a short time, if medullary hematopoiesis becomes established, in order adequately to adapt itself to the requirements of the rapidly-growing and developing infant. In prematures, the fall in hemoglobin may be even greater, so that in what is spoken of as the anemia of prematurity, the hemoglobin may fall lower than 50.

The blood volume in the newborn averages one-fifteenth of the body weight, as compared to one-thirteenth in the adult. This is known to vary with the time at which the cord is cut. For example, when the cutting is delayed for some time, as much as an additional 100 grams has been acquired by the newborn baby. The blood volume has been shown to vary between 10.7 per cent and 19.5 per cent during the newborn period, while in later infancy it remains more constant. The coagulation of capillary blood averages about seven minutes, while blood obtained from the superior longitudinal sinus averages about fifteen minutes. From both sources, it is more prolonged in the first ten days of life than it is later. The presence of erythroblasts and other immature forms of erythrocytes is not uncommon in the first week of life. Their size has been known to vary from 3.25 to 10.25 microns. The leukocytes are higher at birth than in adults and may run as high as 25,000 with a preponderance of polymorphonuclear cells, which may be as high as 70 per cent. They rapidly decline, while the lymphocytes increase, until more conventional proportions of the two are reached. Large mononuclears are frequently numerous in early life, but the eosinophiles are more constant.

Hematopoietic Dyscrasias: As has been stated, we may encounter evidences of interruptions in the normal sequence of events, which characterize hematopoiesis and hemolysis in the transition period from prenatal life through the natal and into the postnatal period, when the blood picture is expected to reach the conventional normal. These interruptions in normal function cannot be explained by any obvious causes such as bleeding, malignancy, congenital anomalies, or septic infection. They are so far as our present knowledge is concerned secondary to no known conditions. Several terms have been suggested to describe them. For example, when anemia is the predominating symptom, such a term as congenital anemia of the newborn is used. When a very severe lemon or saffron colored jaundice is present at birth, in addition to the findings of anemia in the blood, we call it icterus gravis neonatorum. When an enlarged liver and spleen are associated with icterus and anemia, and when the blood picture shows an excessive erythroblastic activity in the medullary and extramedullary centers of erythrogenesis, the name erythroblastosis fetalis is applied. Finally, when edema is outstanding, in addition to all of the foregoing symptoms, the designation universal edema of the fetus is used.

Most of the worthwhile contributions to our knowledge of these conditions have been in recent years, and most of the authors have called attention to the striking similarity of all of them. That they are closely related is indicated by certain symptoms which are common to all of them.

In 1924, Cooley reported five cases of anemia in children in which erythroblasts were almost as plentiful in the blood smear as they are in erythroblastosis fetalis and icterus gravis neonatorum. The only difference was they were discovered later in life. Nevertheless, there is reason to believe that erythroblastosis fetalis, icterus gravis neonatorum, and erythroblastic anemia are closely related. Dr. Williamson will now present a case of erythroblastic anemia, which is one of two which she has had under observation for a number of years.

Remarks and Presentation of Case of Erythroblastic Anemia (Dr. G. R. Williamson): The children in whom this condition is found always present the characteristic resemblance to the Mongolian race. This is because of the peculiar yellow, muddy discoloration of the skin, with a thickening of the cranial bones and the malar eminences. This thickening is more pronounced as the disease progresses. When a case is once seen, the appearance makes such a profound impression on the observer that it should be recognized easily whenever it is again encountered.

The next most consistently regular changes are in the bones, and these are promptly recognized as being peculiar to this form of anemia when roentgenograms are made. The skull shows a marked thickening and a peculiar halo resembling the growth of hair. The long bones, pelvis and fingers show a typical mottled or "mosaic" appearance. This is due to a decreased density amounting almost to a transparency in the fibula and tibia. Occasionally there are transverse lines of increased density. These bone changes are typical of this type of anemia, although the thickening and the peculiar halo resembling a growth of hair have also been noted in sickle-cell anemia.

The true etiology of this disease, like icterus gravis neonatorum and erythroblastosis fetalis, is by no means established, but the concensus of opinion is that there is no doubt that all of them are due to some congenital disorder of the blood-forming mechanism. Halpert, in a recent study of human embryos, found that the cells in their medullary canals were practically one hundred per cent erythroblasts. As has been stated, a small number of these seem to pass through the barrier between the centers of blood making and the general circulation during the first few days of life, but soon disappear from the general circulation. On the other hand, they persist in icterus gravis neonatorum and erythroblastosis fetalis for a very considerable length of time after birth.

So far as has been found, erythroblastic anemia has never been diagnosed prior to the fourth month of life, but in view of the almost identical blood picture as that seen especially in icterus gravis neonatorum, the question naturally arises as to whether or not erythroblastic anemia is but a delayed manifestation of a disease entity, the underlying cause of which is the same as icterus gravis neonatorum and erythroblastosis fetalis.

There seems to be a definite familial background for erythroblastic anemia, because it has been noted in cousins and in rural communities of the Mediterranean, where intermarriage is frequent. A theory has been advanced that malaria has played a part in the production of erythrŏblastic anemia, but as yet no convincing proof has been advanced to substantiate this theory. Several pathologists have remarked that the gross and microscopic appearance of the liver and the spleen strongly resembles those of patients dying from malaria. This is based on the finding of detritus in vessels of the liver and in the blood making islands of the liver. Of course, the excessive fragmentation of erythrocytes seen in advanced cases of malaria is a characteristic that is especially conspicuous in the anemias of the erythroblastic type.

Remarks on Clinical Findings (Dr. Elizabeth Bass, Laboratory of Clinical Medicine): Dr. Williamson and Dr. Strong have mentioned some characteristics of erythroblastic anemia, and I would like to emphasize certain features. There is a definite racial distribution, practically all cases being of Mediterranean races, though there is one case reported of an English girl, and one born in England, but of Greek parentage. There is a definite familial tendency. Its occurrence in early life is characteristic. The patients rarely live beyond ten years, though there is one record of a patient over twenty.

There is a characteristic thickening of the cranial bones, and particularly the malar eminences, which, accompanied by a muddy yellow discoloration of the skin, produces a "mongolian" facial expression. There is marked enlargement of the spleen, with moderate hypertrophy of the liver, and generalized lymphadenopathy.

As regards the laboratory findings, the blood picture is the most characteristic feature. There is invariably some degree of anemia, of the hemolytic type. The hemoglobin is reduced, and the color index low. The outstanding characteristic is the presence of a large number of nucleated red cells. In addition, the red cells tend to be massed or clumped together, rather than uniformly distributed, a finding which Cooley considers pathognomonic. Some cells seem almost colorless, and the degree of color varies in the same cell. Anisocytosis is marked; poikilocytosis present. The reticulocytes are increased in number, and I have seen as high as 11 per cent. There is a consistent increase in leukocytes, ranging from 13,000 to 30,000, and occasionally 50,000. Coagulation is normal, and there is no increased fragility of the red cells. There is a positive indirect van den Bergh. Chronic hemolysis is shown by the pigment in the skin and presence of urobilin in the urine.

With reference to etiology, I would like to quote Drs. Williamson and Crawford in their comment in 1933 (Am. Jour. Dis. Child., 46:565-571, September, 1933) "the changes in the bones are the result of the reaction of the marrow to prolonged overstimulation as a consequence of chronic hemolysis beginning before the cortex is too firm to permit the growth of marrow." Cooley now says that it is a hemolysis due to a metabolic condition, and not as he formerly believed, primarily hemolytic. Koch and Shapiro consider it a definite disease entity, unassociated with rickets or other nutritional diseases. Yaguda pointed out its occurrence most frequently where the mother is above thirty, and has had frequent pregnancies, and suggests a possible exhaustion of some maternal hormone. During a recent visit to the Pasteur Institute in Athens, Greece, Dr. Caminopetros, a noted bacteriologist, stated that he is convinced that erythroblastic anemia is hereditary, being transmitted through the male, in the same relationship and by the same principle as hemophilia is by the female. He has collected data on some 40 cases to substantiate his statement, showing the same cranial bone pathology in the father as in the child.

There is no satisfactory treatment. Most authorities agree that the sole virtue of splenectomy lies in the mechanical relief of the patient's discomfort, and transfusion apparently has no benefit.

Roentgenologic Aspects (Dr. Joseph N. Ane, Department of Roentgenology): The bone changes that we find in erythroblastic anemia are secondary to the stimulation of bone marrow as the result of hemolysis. We find similar changes occasionally in cases of sickle-cell anemia and also in chronic hemolytic anemia.

The portion of the body that shows the most characteristic changes is the skull. The inner and outer tables are thinned. The normal marrow is replaced by a cellular connective tissue of an osteoid nature. This type of tissue arrays itself perpendicular to the inner table, giving the appearance of hair standing on end. These changes are more prominent in the region of the parietal bone, but they are also seen in the region of other bones, The malar bones are very prominent and, in this case, completely overshadow the maxillary sinuses. The diploe are markedly widened. The bone changes are rather well distributed throughout the entire body. The long bones show some widening of the entire shaft with thinning of the cortex and a rather characteristic type of reticulation in the portion of the medullary region of the bone. The bones of the pelvis and spine also show the same characteristic changes.

FACULTY CLUB
LOUISIANA STATE UNIVERSITY SCHOOL OF MEDICINE

The May meeting of the Faculty Club of the School of Medicine of Louisiana State University was held Friday, May 27, 1938 at 8 p. m. at the

Medical Center Science Building. The program was as follows:

Drs. Joseph Stasney and Edward L. Burns of the Department of Pathology and Bacteriology presented the following:

THE INFLUENCE OF ANTI-ANEMIC PRINCIPLES UPON THE SIZE OF THE ERYTHROCYTES OF POUCH OPOSSUMS (DIDELPHIS VIRGINIANA)

The red blood cells of the mammalian fetus are larger than those of the adult animals of the same species. There is a striking similarity between the macrocytosis which occurs in the fetus and that which is found in patients who have pernicious anemia. It has been suggested that the essential principle required for the maturation of the erythrocyte may be lacking both in the fetus and in subjects with pernicious anemia. When these anti-anemic principles become available to patients with pernicious anemia or to the fetus as it normally develops, a marked reduction in the size of the erythrocyte occurs. In previous experiments it was shown that in the pregnant white rat, injections of normal concentrated gastric juice accelerated the maturation of the red blood cells of the developing fetus. This acceleration was demonstrated in the young rats at birth by the fact that both the size and volume of the red blood cells of rats born of treated mothers were considerably smaller than those of rats born of untreated mothers.

In order to test further the effect of the anti-anemic substances upon erythrocytes, an animal was sought in which the principles could be easily administered to the fetus directly. In the opossum (Didelphis virginiana), intra-uterine life lasts 10.5 days. Then these immature young live in the pouch of the mother for 90 days. During their stay in the pouch, the young opossums show a very marked macrocytosis. When they were 24 days old the average diameter of their erythrocytes was 10.4 μ; at the age of 100 days the average diameter of their erythrocytes was 8.1 μ. The average diameter of the red blood cells of adult opossums was 7.4 μ.

When normal concentrated human gastric juice was repeatedly administered to young opossums intraperitoneally, the mean diameter of the erythrocytes was reduced to 8.5 μ, as compared to 9.4 μ in untreated pouch mate controls. When injections were discontinued the mean diameter of the erythrocytes slowly increased, and after 22 days approached that of the untreated animals. At this time a second series of injections of gastric juice was again effective in reducing the size of the red blood cells of the same animals. A solution of concentrated liver extract, administered to animals in the same pouch, produced essentially the same changes in the erythrocytes.

According to these observations there is a gradually diminishing macrocytosis in the new born opossum. This macrocytosis is probably due to a lack of the principles necessary for the normal maturation of the red blood cells. When these principles become available to young opossums, the mean diameter of the erythrocytes becomes smaller.

Dr. Bela Halpert of the Department of Pathology and Bacteriology presented the following subject:

GALLBLADDER DISEASE AND GALL STONES

The immediate cause of the formation of gall stones is an increase and accumulation within the gallbladder of one or more of the stone-forming constituents of the bile. This increase may be hepatogenous, cystogenous or a combination of the two resulting respectively in the formation of pure, mixed or combined gall stones.

Hepatogenous or pure gall stones form when a single stone-forming constituent is in excess in the bile. These may be: (1) Cholesterol stone (solitary); (2) calcium bilirubinate stones, or (3) calcium carbonate stone (rare). Pure gall stones may form and remain in the gallbladder without producing morphologic changes in the viscus or cause clinical manifestations.

Cystogenous or mixed gall stones form when the gallbladder is injured by an inflammatory process. This changes the resorptive function of the viscus in such a manner that the substances holding the stone-forming constituents in solution are resorbed more rapidly than usual, resulting in an accumulation of the stone-forming constituents in an ever increasing concentration.

Combined gall stones form in a gallbladder containing pure gall stones or in one containing mixed gall stones. Thus they have either a nucleus of a pure gall stone and a shell of a mixed gall stone or vice versa.

Approximately 80 per cent of the patients with cholelithiasis have mixed gall stones and somewhat over 10 per cent each have pure or combined gall stones.

A patient may have any of the pure, mixed or combined gall stones yet present no clinical manifestations. Thus a patient with recent signs and symptoms of gallbladder disease may have gall stones antedating the attack. Patients with recurring signs and symptoms of gallbladder disease are likely to have mixed gall stones or combined gall stones with a shell of mixed gall stone. Patients with sudden acute clinical manifestations of gallbladder disease are likely to have either pure gall stones or combined gall stones with the shell of a pure gall stone.

Dr. Bjarne Pearson of the Department of Pathology and Bacteriology discussed the following:

CARCINOMA OF CERVIX

The causes of death and the factors leading to death were studied in a series of cases which came to necropsy. Of the 57 cases studied all except one were squamous carcinomas of varying degrees of malignancy.

The most frequent and constant necropsy findings were strictured ureters which occurred in 75 per cent of the cases. As a result 33 per cent died of uremia. In patients dying of uremia, the blood urea nitrogen, uric acid and creatinine were determined from one to several times. Increase in these constituents were always present, sometimes to a marked degree. Some degree of oliguria was present and, in some, anuria a few days before death. The duration of the disease in patients dying of uremia was 29 months, whereas those dying of peritonitis averaged only 19 months. The histology in the former cases showed uniformly lower grades.

The next most striking single cause of death was peritonitis, occurring in 19 per cent. The cervix was usually necrotic and harbored virulent organisms in about one-half of the cases. The frequency and severity of the peritonitis developing in carcinoma of the cervix depends not only on the kind and virulence of the bacteria but on the resistance of the patient. Injudicious and uncontrolled radiation therapy also precipitates peritonitis in a number of cases. In six of the present series peritonitis followed as the result of radiation therapy.

Metastasis to the pelvic nodes was present in 59 per cent of the cases; distant metastasis in 25 per cent of the cases, the liver and lung being most frequently involved. The metastases were usually small, but in a few cases large hepatic metastases were encountered. The bones were involved in 7 per cent of the cases. The bones of the pelvis are most frequently involved by direct extension. Two patients had metastasis to the spine, which give rise to compression myelitis and paralysis in one patient. The metastases are usually of an osteolytic character. The average length of life was 19 months. The youngest patient was 27 and the oldest 78 years.

Officers elected for 1938-1939 were:
President, Dr. Peter Graffagnino.
Vice-President, Dr. Edgar Hull.
Secretary-Treasurer, Dr. F. F. Boyce.

George M. Decherd, Jr., M. D., Sec.-Treas.

TUMOR CLINIC, CHARITY HOSPITAL

New Orleans

The scientific meeting of June, 1938, was called by Dr. James T. Nix. Miss Constance Meyer of the Social Service Department presented the following paper:

SOME OBSERVATIONS REGARDING THE ADVISABILITY OF TELLING THE PATIENT THE DIAGNOSIS OF CANCER

There is divided opinion regarding the advisability of telling the diagnosis of cancer to patients with that disease. It is believed by some that knowledge of the diagnosis immediately robs the individual of all hope and that when hope is gone the patient loses his will to live. A different opinion is that each patient with cancer should know the diagnosis so that he will realize the importance of cooperating with the doctors in continuing treatment and reporting for check-ups, With an understanding of the diagnosis, the patient is in a position to make adequate plans for any other problems which may arise in his life connected with his limited ability or total incapacitation.

The middle road seems to be the most advisable. Depending upon the individual patient, knowledge of the diagnosis, by some patients, is welcomed, and by others is obviously not acceptable. Some knowledge of the patient's life and emotional status should be known. If there is financial or emotional strain in the family, knowledge of the diagnosis may be the precipitant cause of a complete breakdown. Certainly it is important to have grounds upon which to base a belief that the patient to be told will be able to accept the diagnosis. In the innstance of elderly patients who have a time-rooted dread of the very word "cancer," nothing is gained by an explanation of the diagnosis. When these patients arrive at the clinic, they often know there is a question of cancer in their diagnosis or that some of the other patients being treated in the same clinic have the disease. The social worker hears many stories beginning with, "If I thought I had a cancer, I couldn't stand it. My husband died of a cancer of the throat and I know what he went through." The mere anticipation of what they expect and what they conjure in their minds regarding the terminal stages of the disease leaves the patients in a defeated frame of mind. When such a patient has a family, it is advisable that some other member be told the diagnosis so that plans can be made for the patient's care.

Mrs. Annie K. has been attending clinic for the past eight months. Following a positive biopsy report, a radical mammectomy was performed. Throughout this period, she has believed she had a tumor which was removed and has rejoiced every time she has returned to the clinic that the lump in her breast was not a cancer. She lives with and is supported by her sister and brother-in-law. She is certain that if she had a cancer they would not want her around the house. The patient's condition was explained to the sister and she is in a position to plan for the patient's future care. If the patient herself had been burdened with the diagnosis, she would have probably become more nervous than she already was and, losing all hope, would have succumbed to complete invalidism.

Cancer has long been associated with middle age and old age. Individuals of a younger group, however, can be affected. In cases of this kind where the patient's age is not a deterring factor and where he is intelligent and capable of accepting the diagnosis, it would be unjust to shield him from the true situation. With knowledge of his condition he can care for himself and plan for his treatment intelligently.

Miss Lorraine C. was a 33 year old woman with carcinoma of the cervix. When she first became aware of her diagnosis, she was very upset emotionally. This reaction was caused mainly because she was so anxious to get the best possible treatment and there was a divided opinion among the physicians treating her as to what treatment she should receive. As soon as this difficulty was straightened out and treatment instigated, the patient proved to be very cooperative. All the treatment advised has been received, and the patient's prognosis is good. No further treatment is indicated at this time and she now gets only check-up examinations approximately every three months. Emotional problems still remain. She worries over not earning her own living and still being a burden on her family, but she has adjusted herself to the diagnosis very well. She has followed the improvement in her condition since treatment was begun, and seems to have no further fear of the disease.

There are times when an explanation of the diagnosis is forced. This occurs usually in instances where the patient refuses treatment. When a patient does not know his diagnosis, it can be understood why he might be uncooperative and resistant to treatment. At such a time a patient should most probably be told that he has a cancer so that he will then realize the full importance of the situation and his decisions regarding it. It is to be expected that the normal patient will agree to treatment and continued periodic examinaion. Such is not always the case. The patient will refuse treatment in full knowledge of the diagnosis. The issue of the diagnosis itself seems to be overlooked and the patient concentrates on some other aspect of his life. The financial situation in the family may be brought forth as the reason why the patient, a wage earner, cannot receive treatment. When arrangements are made so that an allowance will be put into the family and the wage earner is free to follow the recommendations, the patient still resists treatment. He turns to still other features in the situation as reasons prohibiting his receiving the care he needs.

One girl, aged 29, refused treatment even after her diagnosis was explained and interpreted over a long period of frequent interviews and contacts with the patient. She refused treatment on the grounds that her father had been told the diagnosis before she had. She was never able to see beyond this resentment to the actual problem of the need for treatment.

It has been discovered that many patients accept the diagnosis calmly and even seem, in some instances, to be relieved to have a definite answer to their doubts and questionings. Knowing the diagnosis is certainly a factor in making patients realize the importance of continuing under a doctor's supervision and guidance.

One important phase of this subject concerns the problem of who is to tell the patient. The doctors are usually too busy to take time out to explain the diagnosis to the patient. The majority of patients treated in a clinic are treated with the attitude that they are getting along very well. This makes it difficult for the social worker to broach institutional care or plans for terminal care with these patients. Sometimes a patient on the ward is assured by the doctors that she is getting along nicely. No treatment can be offered her, however, and social service is requested to make a plan. Discussion of plans for her care when she leaves the ward comes as a shock to the patient. She cannot understand that she is not to receive treatment. She cannot believe the social worker has correct information and the social worker immediately has a poor working relationship with the patient. When it is necessary that the patient understand that he has a cancer and that plans for his care are needed, the doctor is the logical one to make the original explanation. This should be followed by subsequent interpretation by the social worker.

It is definitely true that the social worker can do better work with the patient who knows his diagnosis. This may, of course, be true largely because of the fact that it is the more intelligent and adaptable person who can accept the diagnosis. Whether or not this is the whole reason, it is nevertheless true that when the patient knows that he has cancer the worker has been able to plan more successfully for future care. The patient can take a more active part in the plans, and the worker and patient have common objectives.

Better cooperation may be possible when the diagnosis can be known by the patient, but it must be remembered that many factors prevent such knowledge. The patient's age, emotional stability and superstitions all enter into the decision and predispose that each decision must be made on an individual basis in full knowledge of the contributing factors.

MERCY HOSPITAL

The regular monthly meeting of the Mercy Hospital Staff was called to order on Wednesday, June 1, 1938 at 8:00 p.m. by the President, Dr. E. L. Zander.

The Scientific Program was opened by Dr. H. Ashton Thomas who presented an interesting lantern slide lecture on "Acute Suppurative Parotitis." The subject proved to be very timely as several members present had recently encountered the condition as a postoperative complication. Discussion was entered into by Drs. J. J. Irwin, Chas.

Cox, M. E. DeBakey, Geo. Hauser, J. F. Dicks, J. E. Brierre, P. J. Carter, R. C. Steib and closed by Dr. H. A. Thomas.

The program continued with the general discussion of two cases whose mimeographed histories were supplied to each member present.

The first case was a question of differential diagnosis between meningoencephalocele and cephalematoma. A lively discussion was opened by Dr. Gilbert Anderson, followed by Drs. Dean Echols, L. A. Golden, Sims Chapman, J. J. Irwin, Edgar Hull, P. J. Carter, Maud Loeber and J. F. Dicks.

The second case was one of intestinal obstruction in a child 9 years old. At operation it proved to be an intussusception in the ileum about 12 inches proximal to the ileo-cecal valve caused by a benign papillo-cystoma of the ileum. The discussion was opened by Dr. M. E. DeBakey, followed by Drs. L. J. Hanckes, E. L. Leckert and George Hauser.

After a brief recess the meeting resolved into executive session following which it adjourned until the October meeting.

E. R. Guidry, M. D., Sec.

FRENCH HOSPITAL

A regular meeting of the French Hospital Visiting Staff was called to order on May 21, 1938, with Dr. J. P. Palermo presiding. The minutes were read by Dr. R. E. Rougelot.

The deaths of the previous month were then discussed.

Dr. Graffagnino spoke on some new work being done at Charity Hospital and L. S. U. in which proliferation of endometrium was used as a basis for therapeutic endocrinology. After a four day period of bleeding during menstruation, there is a gradual regeneration of the endometrium under the influence of estrin in the first phase up to ovulation and no other endocrine affects it. In the second phase progestin comes into effect and this tends to check proliferation. Nuclei which are at the base of the cell in the gland layer begin to leave and glycogen forms. The gland becomes secretory in the second stage when ovulation occurs. Estrin continues to be secreted after a slight drop in activity and progestion influence decreases if woman menstruates or increases if pregnancy intervenes.

Treatment of various disorders of menstruation is predicated on the basis of the above endometrial changes as demonstrated by the biopsy punch and examination of tissue.

In the absence of estrin influence, substitution therapy, anterior pituitary extract or thyroid is used.

In excess bleeding, if tissue shows last stage, the roentgen ray is used to depress function of both hormones. In studying the hormones it was found that progestin inhibits the effect of pituitary hormone, while estrin exalts the effect of pituitary hormone on the uterine muscle. These facts being useful in the treatment of dysmenorrhea, estrin or progestin should be given on a basis of the type of tissue. Functional menorrhagia may be caused from pre-ovulation estrin effect and should be treated by anterior pituitary-like substance. Tissue examination can be determined by biopsy punch. Another advantage of the biopsy punch method of the endometrial study is in the diagnosis of the ectopic pregnancy. Formerly 40 per cent of cases gave difficulty in diagnosing, but with the biopsy punch there shows in the endometrium persistent corpus luteum stage and a decidual reaction of the epithelioid-like cells in about 95 per cent of the cases.

Dr. J. Signorelli then presented a scientific program on birth injury showing the differential aspects of caput succedanum and cephal hematoma indicating that the former is spread over the sutures while the latter is confined by the sutures. The internal varieties of cranial injuries were enumerated with black board demonstration of the regions usually lacerated with the type of hemorrhage or tear resulting, and a case was described in which a clearly localized hemorrhage was treated by operation with removal of the clot and subsequently perfect recovery.

The description of the manner in which death occurs in intracranial hemorrhage with characteristic mottled description and asphyxia was described. Treatment with whole blood, except in cases of idiopathic hemorrhage tendency, was considered to be of little benefit.

Dr. W. H. Harris briefly discussed the pathology in these birth injuries.

Miss Sue Barker, the new superintendent, was introduced to the staff.

R. E. Rougelout, M. D., Sec.

HIGHLAND SANITARIUM

The Staff of the Highland Sanitarium held its monthly meeting on May 19, 1938, in the Clinic Building. Since there was no new or old business to come before the staff, the scientific program was presented.

First, there were three short discussions by the physicians who attended the recent Louisiana State Medical Society meeting at New Orleans, Drs. Hendrick, Rutledge and LeDoux giving reports on papers of interest in their various specialties.

Dr. W. P. Mathews then gave a most interesting talk on papers and work that he had heard and seen while on a month's sojourn in the East. One of the most interesting features of this talk was on the one dose serum in the treatment of pneumococcal pneumonia; also he discussed filtrable viruses and virus diseases; again his discussion of cancer and the modern treatment of this disease was most enlightening.

Dr. C. L. LaRue presented a case of heterochromia. This was a small boy, brunette in complexion, who had one blue eye and one brown eye. The significance of this condition was discussed by Dr. LaRue and Dr. I. H. Smith. Dr. LaRue also, for the first time, gave a brief report of a new cyclopegic drug that he is using. This is a combination of benzedrine sulphate (ophthalmic) and a dilute solution of homatropin. A combination of these drugs seems to have a marked advantage over any cyclopegic drugs in use, as dilatation of the pupils occurs in a much shorter time, three minutes against one hour, and the effects are recovered from in a much shorter period, three to six hours instead of 24 to 48 hours with homatropin and 48 to 72 hours with atropin. From Dr. LaRue's glowing report, much can be expected in the future from this new drug.

E. D. Rowland, M. D., Sec.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR

July 5.	Board of Directors, The Orleans Parish Medical Society, 8 p. m.
July 6.	Clinical Pathological Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
July 6.	Hutchinson Memorial Clinic Staff, 8 p. m.
July 7.	Clinicopathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
July 11.	ORLEANS PARISH MEDICAL SOCIETY, Joint Scientific and Second Quarterly Executive Meeting, 8 p. m.
July 13.	Clinical Pathological Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
July 14.	New Orleans Hospital Council, French Hospital, 8 p. m.
July 20.	Clinical Pathological Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
July 21.	Clinicopathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
July 27.	Clinical Pathological Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
July 28.	Clinicopathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.

During the month of June, the Society held its annual joint clinical meeting with the Marine Hospital at the United States Marine Hospital on Monday, June 13. These meetings are always well attended and the members look forward to them. Monday, June 27, was designated as Past Presidents' Night when the Society paid tribute to the men who served as President since its organization in 1878. The following excellent program was presented:

Invocation.

Address of Welcome by the President, Dr. Shirley C. Lyons.

Response in Behalf of the Past Presidents by Dr. Marcus J. Magruder.

"A Review of Progress in the Treatment of Empyema," Dr. James M. Mason of Birmingham, guest speaker.

Presentation of Certificates to the Past Presidents in Behalf of the Orleans Parish Medical Society by Dr. Rudolph Matas.

The meeting was held in the Tulane Room of the Jung Hotel and was well attended by members an their friends. The following is a list of the Past Presidents:

1878-1937

*Dr. Charles Turpin	1878
*Dr. Stephen Solon Herrick	1879-80
*Dr. John P. Davidson	1881, 1887-89
*Dr. Charles Jasper Bickman	1882
*Dr. Thomas Layton	1883
*Dr. Percival Butler McCutchon	1884
*Dr. George W. Lawrason	1885
*Dr. Felix Formento	1886
*Dr. Charles Chassaignac	1890-92
*Dr. Arthur Washington DeRoaldes	1893
*Dr. Edward M. Dupaquier	1894
*Dr. Frederick William Parham	1895
*Dr. Edmond Souchon	1896
*Dr. John Callan	1897-98
*Dr. Isadore Dyer	1899
*Dr. Thomas S. Dabney	1900
*Dr. Edmund Denegre Martin	1901
Dr. Hermann Bertram Gessner	1902
*Dr. Edwin Jackson Graner	1903
Dr. Marcus Johns Magruder	1904
*Dr. Louis George LeBeuf	1905
*Dr. Charles Jefferson Miller	1906
*Dr. John Joseph Archinard	1907
Dr. Amedee Granger	1908
Dr. William Henry Seemann	1909
*Dr. Benjamin A. Ledbetter	1910-11
Dr. Eugene Henry Walet	1912
*Dr. Homer Dupuy	1913
Dr. Charles Noel Chavigny	1914
Dr. Wilkes Herman Knolle	1915-16
*Dr. Paul Joseph Gelpi	1917-18
Dr. Hector Emile Bernadas	1919-20
Dr. Stephen Mertle Blackshear	1921
Dr. William Henry Block	1922
Dr. Hiram Watkins Kostmayer	1923
Dr. Stanford Chaille Jamison	1924
Dr. Urban Maes	1925

Dr. Maurice Joseph Gelpi	1926
Dr. Albert Emile Fossier	1927
*Dr. James Birney Guthrie	1928
Dr. Erasmus Darwin Fenner	1929
Dr. Christian Grenes Cole	1930
Dr. Emmett Lee Irwin	1931
Dr. John Alexander Lanford	1932
Dr. Edward Lacy King	1933
Dr. Waldemar Rice Metz	1934
Dr. Valentine Henry Fuchs	1935
Dr. Frederick Leonard Fenno	1936
Dr. James Thomas Nix	1937

* Deceased.

NEWS ITEMS

Dr. Howard R. Mahorner spoke May 20 at the annual meeting of surgeons of Alabama Power Company, at Mitchell Dam. His subject was varicose veins.

Dr. Gilbert C. Anderson and Dr. Dean H. Echols attended the meeting of the Harvey Cushing Society, in Memphis, during the third week in May.

Dr. Hilliard E. Miller attended the meeting of the American Gynecological Society in Asheville, May 28-June 3.

Dr. Urban Maes attended the meetings of the Society of Clinical Surgery and the American Surgical Association, and took part in a conference on the acute gallbladder at the Postgraduate Hospital in Philadelphia. He also attended the meeting of the New York State Medical Society.

The Central Mississippi Medical Society presented a program by the Faculty of Tulane University School of Medicine, June 7, at Jackson, Mississippi. Those presenting papers were: Drs. Edgar Burns, D. C. Browne, Arthur Caire, Jr., Guy A. Caldwell, Conrad Collins, Mims Gage, Michael DeBakey, Julian Graubarth, Dean H. Echols, Ernest Carroll Faust, Philip H. Jones, Francis E. LeJeune, Leon J. Menville and Neal Owens.

On May 25 the graduating exercises of Hotel Dieu were held with Archbishop Rummel delivering the address. A banquet was held in honor of the graduates and the following staff members attended: Drs. Ruth Aleman, H. E. Bernadas, O. C. Cassegrain, M. M. Green, C. E. Gorman, Maurice Couret, J. A. Danna, T. J. Dimitry, Val Fuchs, Lucy S. Hill, Jerome Landry, Louis Levy, Lucien LeDoux, Aldea Maher, A. D. Mouledous, J. T. Nix, C. V. Perrier, W. J. Otis, C. J. Tripoli, Jeanne Roeling, Marion Souchon, P. B. Salatich, John Signorelli, H. T. Simon, M. T. Van Studdiford and E. H. Walet.

Diplomas were presented to 57 graduate nurses of the Charity Hospital School of Nurses, May 31, by Dr. George S. Bel. Dr. William D. Phillips was master of ceremonies.

Dr. Joseph C. Menendez was presented a plaque by the New Orleans Post 1566, Veterans of Foreign Wars, as a "token of unselfish devotion to veterans."

Dr. Theodore J. Dimitry has been named Chairman of the Monument Committee to work for beautiful monuments on the city's neutral grounds. Medical hero monuments are planned for Tulane Avenue.

Dr. Francis L. Jaubert was re-elected President of the Louisiana Society for Crippled Children and Dr. Guy A. Caldwell was elected Second Vice-President.

Dr. A. L. Levin has been elected President of the Louisiana Chapter of the National Gastro-enterological Society; Dr. Donovan C. Browne, Vice-President, and Dr. Percy Querens, Secretary-Treasurer.

The following members have been lecturing during the last semester in the Public Health Series at Xavier University: Drs. J. S. D'Antoni, A. V. Friedrichs, George Hardin, William H. Harris, Maud Loeber, A. J. McComisky, Paul McIlhenny, John Pratt, Walter Levy, Walter J. Otis, Robert A. Strong and H. L. Weinberger.

Dr. Walter E. Levy spoke before the Quota Club, May 24, on "Preventive Instead of Curative Measures."

Dr. William P. Bradburn was Chairman of the Arrangements Committee for the forty-first annual session here, May 24-26, of the Association of Surgeons of the Southern Railway System. Other members on the committees were Drs. Muir Bradburn, W. Rogers Brewster, R. J. Christman and Alex R. Crebbin. Dr. William P. Bradburn was elected Third Vice-President of this group. Dr. Isidore Cohn and Dr. Urban Maes were guest speakers.

At the annual alumni banquet of the C. Edmund Kells Odontological Society, honorary dental group of Loyola University, May 25, tribute was paid to the memory of Dr. Kells. Among the speakers was Dr. C. Victor Vignes.

At the meeting, May 27, of the Faculty Club of Louisiana State University School of Medicine, Dr. Peter Graffagnino was elected President for the coming year, Dr. Edgar Hull, Vice-President, and Dr. Frederick F. Boyce, Secretary-Treasurer. The program included talks by Drs. Bela Halpert, B. I. Burns, and discussions by Drs. A. L. Levin, Peter Graffagnino and D. M. Kingsley.

Dr. Edwin Socola has been appointed Clinical Professor in the Department of Pediatrics at the Louisiana State University School of Medicine.

It has been decided, according to Dr. Hiram W. Kostmayer, to make the training course for Medical Reserve Officers an annual event of the Graduate School of Tulane University School of Medicine. There were 67 officers registered for the course held this past May which combined professional postgraduate instruction and a conference on medical military matters.

Drs. Victor Smith and W. B. Clark announce that Dr. Wallace C. Beil of Kansas City will be associated with them. Dr. Beil has been appointed to the Visiting Staff of the Eye, Ear, Nose and Throat Hospital.

Dr. D. M. Kingsley will serve as ship's doctor on the Delsud on its next trip.

Dr. T. B. Sellers has returned from the International Congress of Obstetricians and Gynecologists in Amsterdam.

Recently published is a biography of the late Dr. Russell E. Stone, written by Dr. Rudolph Matas and prefaced by Dr. A. J. Hockett. The volume, a memorial to Dr. Stone who served Touro for over 26 years, is inscribed "In Memoriam—Russell Edward Stone—1878-1937" and tells of his education, distinctions and professional and personal characteristics and his services to the infirmary.

Dr. C. Walter Mattingly was made honorary member of the Loyola Chapter of Blue Key, national honorary service fraternity, at the meeting May 19, when Dr. Amedee P. Granger talked on principles underlying the use of roentgen rays in locating foreign objects in the human system.

Dr. Willard R. Wirth was received into Fellowship of the American College of Physicians at its recent annual meeting. Dr. Wirth was also notified of his certification by the American Board of Internal Medicine.

The following members attended the meeting of the American Medical Association at San Francisco: Drs. Charles A. Bahn, Elizabeth Bass, Hugh T. Beacham, Guy A. Caldwell, Philips J. Carter, Rena Crawford, Edmund McC. Connely, Frederick L. Fenno, George H. Hauser, Ben R. Heninger, Ralph Hopkins, Edward L. King, John H. Musser, Alton Ochsner, Curtis H. Tyrone, H. Randolph Unsworth, William H. Seemann, Carroll Smithers, Robert A. Strong, James W. Tedder, M. T. Van Studdiford, Irwin Wexberg, G. Richarda Williamson, Theodore A. Watters and Roy W. Wright.

Dr. Clothilde Jauquet was elected to Honorary Membership in the Orleans Parish Medical Society.

Dr. George Haik and Dr. Clarence P. May were elected to Active Membership.

Dr .Val H. Fuchs spoke on "Otolaryngological Problems of the General Practitioner" at the meeting of the Seventh District Medical Society in Rayne, June 9, and Dr. R. M. Willoughby spoke on "Conservation in Urological Surgery."

During the recent legislature when several bills were introduced that concerned the medical profession, the successful outcome was most satisfactory and due to the efficient work of the following: Dr. Roy B. Harrison, of the Louisiana State Board of Medical Examiners, Dr. C. Grenes Cole, of the State Society and Dr. C. L. Brown, of the Orleans Parish Medical Society.

The Library will be glad to have reprints for use in its Out-of-Town Extension Service.

Dr. Roy de la Houssaye read a paper with slides on the thymus glands at the Tri-County Medical Society meeting at Tylertown, Mississippi, June 14.

Dr. Charles A. Bahn attended the American Medical Association meeting and opened a discussion on "Vascular Obliteration for Various Types of Keratitis with Special Reference to the Nutrition of the Corneal Epithelium."

Dr. Henry W. E. Walther attended the American Urological Association meeting in Quebec, June 27-30.

Dr. Anees Mogabgab, President of the last graduating class of McDonogh High School No. 1, presided at the twenty-fifth anniversary reunion of the class.

Dr. William H. Perkins is in charge of the courses of health education and maintenance offered by Tulane University.

Dr. George M. Decherd has resigned from the Department of Medicine of L. S. U. and will return to the Medical School of the University of Texas.

Dr. J. Ross Veal has accepted the position of Chief Resident Surgeon at the Gallagher Memorial Hospital in Washington, D. C., effective July 1. The position carries teaching connections at Georgetown University and George Washington University.

WOMEN IN MEDICINE

In the History Room of the Library is an impressive exhibit. It is a unique and comprehensive account of "Women in Medicine" from the earliest to the most recent times, a record that speaks silently of struggles and of successes.

Comprising photographs, monographs and publications from the libraries of the Orleans Parish Medical Society and Tulane University School of Medicine and from the personal collection of Dr. Elizabeth Bass, the display is so arranged that one may trace the progress of medical women through the centuries and discover many interesting facts. Reproductions of old woodcuts, engravings and carvings, depicting women physicians of antiquity contrast with photographs of more modern periods. Brochures and books, some rare old editions, and autograph columns, tell of the movement for equal rights, the development of medical education in various countries, American pioneers, women Army surgeons, American Woman's Hospital movement, the part of women in the World War, Oriental medical women and a collection of modern monographs by medical women. From this wealth of material we have made the following notations:

The Sumerians held women physicians in the highest respect 6,000 years ago.

Aspasia (1st century) wrote first record of podalic version and was perhaps the first to use this technic.

Pliny (A. D. 70) tells of Greco-Roman women who wrote medical books before the time of Augustus.

Alessandra Giliano, Professor of School of Bologna (1326) injected and colored anatomical specimens.

In 1292 there were eight women physicians in Paris.

Trotula (11th century) taught in School of Salerno and her book on gynecology was followed for three centuries.

Louise Bourgeois (1563-1638), pupil of Pare, was one of the first to force premature labor in the case of placenta previa with hemorrhage.

Anna Morandi Manzalini, 1716, introduced wax models of dissection.

Marie Anne Victorine Boivin, 1773-1840, was famous for her invention of pelvimeter and speculum and for her research on hydatid moles, obstetrics, and placental absorptions.

Dr. Elizabeth Cohen, who was the first woman country to graduate in medicine, 1849.

Dr. Elizabeth Cohen, who was the first woman doctor in New Orleans, practiced from 1857 to 1905.

There are 7,000 women physicians in America and all but three medical schools admit women.

TREASURER'S REPORT

Actual book balance April 30, 1938	$5,026.69
May credits:	$ 558.69
Total credits:	$5,585.38
May expenditures:	$ 819.12
Actual book balance May 31, 1938	$4,766.26

LIBRARIAN'S REPORT

During April and May, 82 volumes have been added to the Library. Of these, 27 were received by binding, 25 by gift and 27 from the New Orleans Medical and Surgical Journal. Notation of new titles of recent date will be given next month.

The Library has loaned to doctors during April and May, 1,881 books and journals, or more than three to each member of the Society. In addition, 1,608 volumes have been loaned to students for overnight use, making a total of 3,489 for the month. These figures do not include the great use of books and journals within the Reading Rooms.

Members of the staff have collected material on the following subjects during the two months:

Otolaryngology and the general practitioner.

Advantages of membership in medical societies.

Mazoplasia.

Alcohol injection for relief of pain.

Injuries of supra-spinatus tendon.

Surgery of sympathetic nervous system.

Vitamin C and its relation to bleeding in gastro-intestinal diseases.

Thymus in children.

Dermatophytosis.

Gas bacillus infection.

Metrazol and insulin in treatment of dementia precox.

Bilateral renal calculi.

Cyclic vomiting.

Marriage.

Viruses.

Abnormalities of hepatic artery.

Relation of endocrine disorders to ophthalmology.

Radio and medical ethics.

Dextrocardia.

Hygroma.

Hematoma of abdominal wall.

Volvulus of cecum.

Trauma and cancer.

Medical ethics.

LOUISIANA STATE MEDICAL SOCIETY NEWS

STUDY OF MEDICAL CARE
Conducted by the
AMERICAN MEDICAL ASSOCIATION

The American Medical Association will supply forms to state medical associations for distribution to all county medical societies for each to conduct a Study of Medical Care within its county or where a local society is composed of more than one county, it should include all counties which comprise the society. When the study is completed, a condensed report should be made out in triplicate. One copy should be filed by the county society, one mailed to the American Medical Association, 535 North Dearborn Street Chicago, Ill., and one to the Louisiana State Medical Society. Numbers and titles of forms follow:

1. Information Concerning Medical and Dental Practice.
2. Information Concerning Hospitalization.
3. Information Concerning Nursing Services.
4. Information Concerning Health Department Activities.
5. Information Concerning Medical Services Arranged for or Provided by Private or Governmental Welfare and Relief Agencies.
6. Information Concerning Health and Medical Services Arranged for or Provided by Public, Parochial, and Private Schools Below the College Level.
7. Information Concerning Health and Medical Services Arranged for or Provided by Colleges and Universities.
8. Information Concerning Medical Services for or Provided by Industrial, Fraternal, Mutual Benefit, Group Hospitalization, Community Health and Other Similar Organizations or by the County Medical Society.
9. Information from Pharmacists. Instructions for Form No. 9.
10. Summary Sheet to be used by county medical societies for recording the summarized information which is collected from various sources on Forms 1-9 inclusive. A sheet of instructions will accompany the Summary Form.

ATTENTION MEMBERS OF LOUISIANA STATE MEDICAL SOCIETY

At the last meeting of the Executive Committee the following slogan was unanimously adopted: “Every Eligible Doctor in Louisiana a Member of the State Society.”

In 1937 we had 1,348 members in the State Society. Up to date we have received 1938 dues for 1,276 members. From statistics available in our office we find that there are between five and six hundred doctors in the state who have not paid 1938 dues and who are eligible for membership. Just think what an easy task it would be for the officers of the State Society if each member of organized medicine would give one hundred per cent cooperation and secure for the State Society at least one additional member.

Could you not carry to these non-members the many benefits and privileges which you enjoy as a member of the State Society and secure their interest in becoming a member of our organization? You should realize that never in the history of our organization has there been more definite need for a united medical front, and this can only be accomplished by the largest membership possible. We need you in this drive. Help us to reach the goal and the wishes of the Executive Committee.

P. T. Talbot, M. D.
Secretary-Treasurer.

DOCTOR MATAS HONORED

Louisiana’s most distinguished physician has been officially recognized as America’s most distinguished medical man. The House of Delegates of the American Medical Association, acting June 13, selected Doctor Matas to be the first recipient of the distinguished service medal for “meritorious service in the science and art of medicine.” This medal is to be awarded annually to the most worthy member of the medical profssion. Doctor Matas’ selection is to be considered noteworthy as he will be the first of that which, in after years, will be a long line of outstanding men.

The name of Doctor Matas was one of thirty or more that were submitted to the Board of Trustees of the American Medical Association. From this list of names, the Board selected the names of Dr. Simon Flexner, of the Rockefeller Institute for Medical Research; Dr. Ludvig Hektoen, of Chicago, Director of the National Institute of Health, and Doctor Matas. These three selections were then voted upon by the House of Delegates of the American Medical Association. Doctor Matas received more of the delegates’ votes than the combined votes for the other two candidates.

The medical profession of Louisiana may share in the reflected glory of Doctor Matas’ achievement. We are proud that our great surgeon should be considered by representatives of every state in the Union to be the outstanding medical man in this country.

BI-PARISH MEDICAL SOCIETY

The meeting of the Bi-Parish Medical Society was called to order June 2, 1938 by the Vice-President, Dr. W. J. Roberts. Following dinner at the hospital, the scientific program, which consisted of papers and demonstration of the use of metrazol on patients in the institution, was held in the Staff Room.

Dr. N. F. Stafford spoke on the use of metrazol, and Dr. Charles Miller read a paper on insulin, both of which were discussed favorably by the members present. A vote of thanks was extended to Drs. Stafford and Miller for their presentations.

The next meeting of the society will be held on the first Wednesday in August at 7:30 p.m. at the East Louisiana State Hospital, Jackson, Louisiana.

E. M. Toler, M. D., Sec.

MOREHOUSE PARISH MEDICAL SOCIETY

The regular monthly meeting of the Morehouse Parish Medical Society was held at the City Hall in Bastrop on May 10, 1938. Members present were Drs. Raney, Jones, Garnier, Leavell, Rodgers, Ogden, Sims and Patterson. Dr. Lyles, Morehouse Parish Health Director, was also present.

Dr. J. N. Jones, delegate, gave a report on the recent meeting of the State Medical Society held in New Orleans.

Dr. C. J. Raney presented an interesting paper on "Undulant Fever."

F.B. Ogden, M. D., Sec.

LOUISIANA GASTRO-ENTEROLOGICAL SOCIETY

The Louisiana Chapter of the National Gastroenterological Society held its annual election of officers on May 26, 1938 and the following physicians were elected to conduct the affairs of the organization for the coming year:

Dr. A. L. Levin, President.
Dr. Donovan Browne, Vice-President.
Dr. Percy Querens, Secretary-Treasurer.

The meeting preceded a social for the members and their wives, at which Dr. and Mrs. Levin were the hosts.

Dr. Oscar Bethea, invited as guest speaker, delivered a short, but instructive talk on the care, sterilization and maintenance of the elasticity of the stomach tube, fortified with further elaboration in assisting the patient to overcome the unpleasantries associated with swallowing a tube, and subsequent gastric lavage. Comments by some of the members brought out unusual experiences, and report of a case of general melanomatosis which (though contrary to modern belief) may have been dormant for twelve years following the removal of an eye showing a primary melanotic growth.

Dr. Anderson spoke on the relation exhibited between the central nervous system, especially the autonomic, and the gastrointestinal tract, the latter unfolding a group of symptoms caused by a distorted physiology of the former and resulting in errors of function.

Short comments by other members closed the scientific meeting.

AMERICAN CONGRESS OF PHYSICAL THERAPY

The seventeenth annual scientific and clinical session of the American Congress of Physical Therapy will be held cooperatively with the twenty-second annual convention of the American Occupational Therapy Association, September 12-15, 1938, at the Palmer House, Chicago. Preceding these sessions, the Congress will conduct an intensive instruction seminar in physical therapy for physicians and technicians, September 7-10.

The convention proper will have numerous special program features, a variety of papers and addresses, clinical conferences, round table talks, and extensive scientific and technical exhibits.

The instruction seminar should prove of unusual interest to everyone interested in the fundamentals and in the newer advances in physical therapy. The faculty will be comprised of experienced teachers and clinicians; every subject in the physical therapy field will be covered. Information concerning the convention and the instruction seminar may be obtained by addressing: The American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago.

INTERNATIONAL COLLEGE OF SURGEONS

The second national assembly of the International College of Surgeons will be held in Philadelphia, Pennsylvania, with the headquarters at the Bellevue Stratford Hotel, on October 13 and 14, 1938.

All members of the medical profession of good standing are cordially invited to attend the scientific program and various clinics. There will be no registration fee.

NEWS ITEMS

Members of the State Medical Society, exclusive of residents of New Orleans, attending the meeting of the American Medical Association in San Francisco, June 13-17, were as follows: Dr. H. O. Barker, Alexandria; Drs. Dean H. Duncan, H. G. F. Edwards, Arthur A. Herold, Douglas L. Kerlin, Paul W. Winder, all of Shreveport; Drs. S. R. Edwards and Robert Kapsinow, of Lafayette; Drs. James Q. Graves and P. L. Perot, of Monroe; Dr. G. C. McKinney, Lake Charles; Dr. H. M. Prothro, Pleasant Hill; Dr. Bennie E. Spencer, Sterlington.

At the invitation of the South Mississippi State Medical Society, three members of the Graduate School of Medicine Staff of the Louisiana State University Medical Center spoke at a meeting of the Society held at the Forrest Hotel in Hattiesburg, Mississippi, on June 9, 1938. Dr. James T. Nix, Dean of the School, addressed the Society on "Carcinoma of the Stomach and Its Surgical Handling." Dr. John Connell, of the Department of Pathology, spoke on "Lymphogranuloma Inguinale" (A motion picture). Dr. A. L. Levin, Professor of Medicine, talked on "A Diagnostic Clinic in Gastro-enterology: Presentation of Case Records."

Assistant Surgeon Dale C. Cameron has been relieved at Evansville, Ind., upon arrival of Passed Assistant Surgeon Fred P. Burow, and ordered to proceed to New Orleans and report to the Medical Officer in Charge of the U. S. Marine Hospital at that place for duty.

Passed Assistant Surgeon Paul E. Walker has been relieved from duty at New Orleans, as of June 29, 1938, and ordered to proceed to Mobile, Ala., and report to the Medical Officer in Charge of the U. S. Marine Hospital at that place for duty.

THE DOCTOR

This well known picture, the reproduction of Sir Luke Fildes' masterpiece "The Doctor," was first shown at the Century of Progress Exposition in 1933 and again in 1934. It was then sent on tour of the country and was viewed by over five million people. This magnificent reproduction was recently presented by the Petrolagar Laboratories to the new Rosenwald Museum of Science and Industry in Chicago.

REFRESHER COURSE IN PEDIATRICS

A Refresher Course in Pediatrics was conducted in Marksville, June 13-17, by Dr. Cecil O. Lorio. The course, which consisted of lectures, round table conferences and consultation, was sponsored by the Committees on Medical Education and Pediatric Courses of the Louisiana State Medical Society, and the Bureau of Parish Health Administration and the Division of Maternal and Child Health of the Louisiana State Board of Health. Similar courses will be given at designated points within each councilor district; a cordial invitation is extended to all physicians to attend.

ASSEMBLY OF LABORATORY DIRECTORS

There will be held in the Hot Springs National Park, Arkansas, October 21-22, a meeting of laboratory workers from the entire country, as well as physicians and health officers interested in the control of syphilis. This meeting is under the auspices of the Committee on Evaluation of Serodiagnostic Tests for Syphilis of the United States Public Health Service; Surgeon General Parran will be the chairman. The schedule calls for four sections, the most important of which will be apparently the first section. Drs. Eagle, Hinton, Kahn, Kline and Kolmer will be among those presenting papers.

INFECTIOUS DISEASES IN LOUISIANA

Dr. J. A. O'Hara, epidemiologist for the State of Louisiana, has furnished us with the weekly morbidity reports for the state, which contain the following summarized information. For the week ending May 21, syphilis led all other reportable diseases, as it has done for the past many weeks, with a total number of 274 cases listed. Other diseases, occurring in frequency greater than 10, came in order: 44 cases of whooping cough, 43 of pneumonia, 37 of measles, 27 each of cancer and pulmonary tuberculosis, 14 of influenza and 11 of malaria. A patient developed poliomyelitis in Iberia and another in St. Mary Parish this week. The typhoid fever cases listed numbered only seven. The succeeding week, ending May 28, the following diseases were listed in double figures: 134 cases of syphilis, 42 of pneumonia, 40 of gonorrhea, 28 of cancer, 27 of pulmonary tuberculosis, 13 of measles and 11 of scarlet fever. There were two additional cases of poliomyelitis reported in Tangipahoa and Orleans parishes. A case of smallpox was also reported at this time from New Orleans. Four cases of undulant fever, as well as two of tularemia were listed, both of the latter coming from St. Helena. For the next week, which came to a close June 4, there were reported 168 cases of syphilis, 49 of pulmonary tuberculosis, 35 of pneumonia, 27 of measles, 21 of gonorrhea, 20 of cancer, 13 of pellagra, and 10 each of typhoid fever and whooping cough. Another case of poliomyelitis was listed this week from Orleans Parish. The typhoid fever cases were scattered throughout the state, no one parish listing more than two instances. Smallpox was observed in one individual in Natchitoches. For the last week for which figures are available, that of June 11, 173 cases of syphilis were reported, followed by 79 of pulmonary tuberculosis, 41 of pneumonia, 37 of whooping cough, 32 of cancer, 14 of hookworm, 13 each of malaria and typhoid fever, 12 of influenza and 10 of diphtheria. There was a marked increase in the number of cases of pulmonary tuberculosis over the five year average for the week, which is 32.2; whooping cough, also, is decidedly on the increase. There were listed two additional cases of poliomyelitis, one from St. Mary and one from Jefferson. Three instances of tularemia were observed, two from Caddo and one from Rapides. There were 13 cases of typhoid fever listed this week, Caddo reporting four, Franklin three, and Richland two; the remainder of the cases were scattered around in the parishes.

HEALTH OF NEW ORLEANS

The Department of Commerce, Bureau of the Census, reports that for the week ending May 14, there were 128 deaths in the City of New Orleans, divided 82 white and 46 negro, as contrasted with 136 deaths the previous week. There were 11 deaths in infants under one year of age. There was an increase of 14 deaths over the previous week, during the week ending May 21, largely as a result of 17 more deaths in the negro population, there being 63 as contrasted with 79 white deaths. It is possible that a good many of these deaths may be contributed to the increase in infant mortality, there being 19 infant deaths this week. There was a slight decrease in the number of deaths for the next week, ending May 28, with 136, divided 73 white and 63 negro, and with a mortality in infants of 15. For the week ending June 4, there was a still further diminution to 129 deaths, 74 of which occurred in the white and 55 in the negro population. The infant deaths this week numbered 14. For the week ending June 11, there was quite a sharp increase in the death incidence in the city. There were listed 155 people dying in New Orleans, of which 96 were white and 59 negro. The children under one year of age who expired this week totalled 15.

The number of deaths in the city this year was somewhat lower than in 1937; in this latter year, for the first 23 weeks, there were 3713 deaths as compared with 3531 in 1938. This reduction in the number of deaths was proportionately divided between the two races.

THE AMERICAN COLLEGE OF PHYSICIANS TO MEET IN NEW ORLEANS

The twenty-third annual session of the American College of Physicians will be held in New Orleans, with general headquarters at the Municipal Auditorium, March 27-31, 1939.

Dr. William J. Kerr of San Francisco is President of the College and will have charge of the program of general scientific sessions. Dr. John H. Musser of New Orleans has been appointed General Chairman of the session, and will be in charge of the program of clinics and demonstrations in the hospitals and medical schools and of the program of round table discussions to be conducted at the headquarters.

A LETTER

Canton, China, June 11, 1938.

A recent Reuter despatch, quoting a Japanese spokesman declared: "Accurate bombing of Canton was carried out despite very heavy anti-aircraft fire."

May we, foreign physicians of Canton and witnesses of the events of the past 14 days, call attention to the "accurate" bombing on June 6. Judging by the results it was aimed chiefly at a large central section of the open city of Canton, between the Electric Light plant and the Taai Ping Road, from east to west and south to north, from the Pearl River to Wai Fuk Road. This district contains a large number of hospitals and doctors' offices—a quiet zone! The accuracy of the airmen's aim is attested by the fact that a bomb struck the Paul Doumer Hospital (French), and destroyed the operating rooms, roentgen ray equipment and laboratory, just as they were prepared to operate upon people who had been bombarded elsewhere. Bombs fell perilously near several other hospitals, shattering glass in same. Are we to assume that the Japanese airmen wish to destroy hospitals in Canton along with other private property?

As physicians, devoted to the saving of human life, we vigorously protest against this determined policy of the Japanese air force ruthlessly to destroy human life.

Signed by: Doctors W. W. Cadbury, C. A. Hayes, R. L. Lancaster, F. Oldt, T. D. Stevenson, J. O. Thomas, P. J. Todd.

WOMAN'S AUXILIARY

Louisiana State Medical Society

President—Mrs. Frederick G. Ellis, Shreveport.

President-elect—Mrs. S. M. Blackshear, New Orleans.

First Vice-President—Mrs. C. A. Martin, Welsh.

Second Vice-President—Mrs. A. G. McHenry, Monroe.

Third Vice-President—Mrs. D. C. McBride, Alexandria.

Fourth Vice-President—Mrs. A. F. Hebert, New Orleans.

Treasurer—Mrs. O. C. Rigby, Shreveport.

Recording Secretary—Mrs. D. T. Milam, Monroe.

Parliamentarian—Mrs. A. A. Herold, Shreveport.

Corresponding Secretary—Mrs. C. B. Erickson. Shreveport.

Press and Publicity—Mrs. R. T. Lucas, Shreveport.

A letter has been received from Dr. Talbot with a message from Dr. O'Hara, President of the State Medical Society, asking us for a very definite service to be rendered to the doctors' organization. This I feel is an honor and we are, of course, delighted to help in any way we can.

The letter in part is as follows:

"At the last meeting of the Executive Committee of the State Society the following recommendation, emanating from the Council, was passed: That the State Society put on a drive to secure members during 1938, with the slogan 'Every Eligible Doctor in Louisiana a Member of the State Society!' It is my knowledge, also, that the Woman's Auxiliary of the State Society is very desirous of increasing their membership throughout the state. It is perfectly obvious that such activity on your part would tremendously aid and give impetus to the campaign conducted by the State Society. The women can help in so many ways in the various parishes, not only by obtaining the wives of members of the State Society but by influencing the doctors to become members of the Society in order that their wives may be qualified to become members of the Woman's Auxiliary. This offers a valuable opportunity to combine our forces in attempting to increase the membership of both of our organizations, a truly worthwhile project which should receive the loyal support of the members of your Auxiliary."

The doctors are planning district campaigns for membership and you will be notified later as to your part in the work which I know you will perform gladly.

Yours sincerely,
Edna Ellis, President.
(Mrs. Fred G. Ellis).

BOOK REVIEWS

Safe Childbirth: By Kathleen Olga Vaughan, M. D. Baltimore, Wm. Wood, 1937. Pp. 154. Price $3.00.

This work considers as the three essentials for safe childbirth, (1) a round pelvic brim, (2) flexible joints, (3) natural posture. Dr. Vaughan feels that, if these three points are carefully studied, their importance becomes apparent.

As regards the first essential, she has found that the round pelvic brim is the normal type in aboriginal women, living almost or entirely in the savage state, and that in such women the entire pelvic cavity is generally round. The pelvis that is considered normal for the civilized woman is held by her to be really abnormal; she feels that the change in shape from the round type has been brought about by the effects of civilization.

Similarly, the author is of the opinion that the pelvic joints become increasingly flexible as pregnancy advances, and that posture has considerable effect on the mobility of these joints. She contends that the squatting posture so characteristic of savage peoples, as at rest or during defecation, which is normal for them from childhood on, increases the flexibility of the pelvic joints, and thus makes parturition easier. She feels that the sitting posture of civilized women has a contrary effect.

In the third place, the author calls our attention to the fact that in aboriginal peoples delivery usually occurs in the squatting, kneeling, or knee-elbow position. The use of the obstetrical stool or chair is an outgrowth of this custom. She feels that the natural position relaxes the parts to the utmost, and suggests the following method: first, squatting (in the first stage); second, kneeling; third, delivery on all fours (knee-elbow position). The practice of delivering women in the dorsal or left lateral position is condemned as unphysiologic.

The book is an interesting one, and represents a careful review of an enormous amount of clinical, roentgen ray, and other material. If the author's conclusions are granted to be correct, however, the entire system of rearing girls would have to be revised, and our obstetric methods would have to be drastically changed. Whether the round pelvis could be developed in one or two generations, by the use of the suggested methods of rearing children, must be a mooted question. One must conclude then, that while this book is most interesting, there is no likelihood of the adoption of the methods suggested.

E. L. King, M. D.

Clinical Laboratory Diagnosis: By S. A. Levison, M. S., M. D., and Robert P. MacFate, C. H. E., M. D. Philadelphia, Lea & Febiger, 1937. Pp. 877. Price $9.50.

To the authors of this book, we the doctors, medical students and technicians of America owe thanks of gratitude. It is so written that one may use it for reference or laboratory manual. I can appreciate the reviews in anatomy, physiology, or chemistry in connection with the laboratory technic, because it has saved me lots of review work by bringing back to my memory certain connecting links which open up the mental picture of a subject.

No doubt the authors could have concentrated the actual laboratory technic into a much smaller volume. This might raise a question for debate as to whether or not this text is written too much in detail. There could be good arguments on both sides, but Hippocrates once said that "efficiency is obtained only by one who pays strict attention to minute details." The average busy practitioner may lay this book aside for one with more brevity in order to conserve time; but time is always abundant to those who are eager to use it. However, time waits for no man.

For the medical student this book is excellent because of the way subjects are systematized and interwoven with technic. There is a brief description of functional and anatomic results, both normal and abnormal. However, there is still some argument that such abundance of facts may interfere with one's application of essential technic.

For the average technicians, who are unfortunately not all college graduates, this book is not so adapted, for it has been my experience to ask only routine, brief, detail technic from such technicians; otherwise, the test performed by the average technician is application, and the interpretation is perfected by experience. A book such as this might serve to give the technician without a college education a false smattering idea of the "where and what for," because it does not and cannot cover the entire fields in the different branches of science.

I am particularly impressed with the chapters on the function and examination of the alimentary tract, as well as the discussion on liver and biliary diseases. These subjects are very beautifully written without any unnecessary statements and certainly no essential points are omitted.

Generally speaking the drawings, sketches and illustrations are not what one might expect to accompany this wonderful book.

I wish to thank the authors for such a valuable book as this in my library. I sincerely hope my remarks are not suggestive of anything but constructive criticism. I wish, therefore, especially to congratulate the authors for the incorporation in their book of the work on pediatrics legal medicine, and for the adaptability of this book to the general practitioner.

George Barnes, M. D.

Workbook in Elementary Diagnosis for Teaching Clinical History Recording and Physical Diagnosis: By Logan Clendening, M. D. St. Louis, C. V. Mosby Co., 1938. Pp. 167. Price $1.50.

This is a laboratory manual designed for the purpose of teaching students the art and science of diagnosis. The author has used this method for years in teaching and says it has been of great aid to him. The essential facts in connection with the history and examination are few, and the student is referred to the standard reference books for a fuller discussion. He merely states those data which the student must have readily accessible to gather his information intelligently. There are excellent pen and ink drawings depicting methods of examination and revealing disease processes. Model history and examination forms are presented. Exercises devoted to questions pertaining to physical diagnosis are a feature of the book and to be used by the instructor as a basis for quiz drills.

I. L. Robbins, M. D.

Men Past Forty: By A. F. Niemoeller. New York, Harvest House, 1938. Pp. 154. Price $2.00.

This small volume presents the problem of impotence. It is addressed to the lay reader. The subject is considered in all its apsects: etiology, pathology, diagnosis, and treatment. It is rather too complex for the layman's medical background, and somewhat too cursory for the specialist in the field of sexual disorders. Its value is greatest, perhaps, to the "busy practitioner" who has the will, but not the time, to keep abreast of current trends in medicine.

The book contains a list of the available preparations considered by the author as reputable and efficacious in the treatment of impotence. In presenting this to the layman, I believe that a grievous error has been made, since some of the preparations are in the tablet form. Whether it is desirable or not, the layman is quite likely to attempt self-medication after reading the book. As a measure of protection against this tendency, the reader is cautioned that "these (glandular preparations) it is wise to use only under a physician's advice."

Irving J. Glassberg, M. D.

Operative Gynecology: By Harry Sturgeon Crossen, M. D., and Robert James Crossen, M. D. St. Louis, C. V. Mosby Co., 1938. Pp. 1076, Price $12.50.

The fifth edition of "Operative Gynecology," by the Crossens, father and son, is revised to contain the more recent developments. Particular attention is devoted to the choice of operation for individual cases. Numerous illustrations have been added.

The paragraphs dealing with the treatment by roentgen ray and radium are clearly detailed, a feature not common in many on texts gynecology.

As a whole the text is recommended to the young as well as the old students.

Adolph Jacobs, M. D.

Hematology: By William Magner, M. D., D. P. H. Philadelphia, P. Blakiston's Son & Co., Inc., 1938. Pp. 395. Price $4.50.

William Magner, pathologist St. Michael's Hospital, Toronto, Canada, and formerly lecturer in pathology, University College, Cork, Ireland, has been one of the outstanding contributors to hematology in the British Empire. He is well known for his hematologic studies and for his experimental and clinical experiences in this particular field. The result of his many years of study of blood diseases and the changes produced in the body by such diseases has eventuated in the production of this book. About it the reviewer has practically nothing but praise. Systematically arranged, written without undue verbiage and beautifully illustrated, the volume is a real addition to the subject of hematology. It is a book which can be used both as a reference book and as one in the library of the ordinary practitioner. The first section will be of more interest to the man in the laboratory than the latter part of the volume. For the practicing doctor this last section is splendid. There is a clear-cut picture painted of all the various types of anemias and blood dyscrasias. The author shows not only how the disease may be recognized but also, and this is particularly necessary for the practitioner, includes a thorough, detailed discourse on the treatment of the blood diseases.

The above account may seem too fulsome in its praise. A few words of criticism may not be amiss. It is a great pity that more stress than there is is not laid upon the information which may be obtained by the simple procedure of centrifuging the blood and determining the number of c.c. of packed cells in the centrifuge tube. The indices that are obtained by this method are of extremely practical value yet only little more than a page and a half is devoted to this phase of hematologic investigation and practically nothing is mentioned in the discussion of diseases of the results obtained by this method. Particularly is it to be regretted that the simplest and easiest way of estimating changes in the size of cells is neglected, namely the determination of the mean corpuscular volume. Another criticism which is of minor import is that in a book of this type more complete references might well have been incorporated. The name of the author and the journal in which the article is published are given, but it would have added something to the book if there were added, in the references given, the title of the papers and if the references were divided into sections corresponding to appropriate chapters.

J. H. Musser, M. D.

The Negro's Struggle for Survival: By S. J. Holmes. Berkeley, Calif., University of California Press, 1937. Pp. 296. Price $3.00.

As the author properly puts it, this is "A Study in Human Ecology." The study deals with the conclusions based on the investigation of growth of the negro population and its migrations, with its biologic effects on the race. The selective action of disease, infant mortality and birth rate are considered in the light of statistical data, and the conclusions drawn are in the true spirit of scientific detachment. The questions of "The Stabilized Rate of Natural Increase Among the Negro Population" (Chapter 3) and "Will the Whites Absorb the Blacks?" (Chapter 8) are but two of many arresting, interesting and important tasks that the author has assigned himself and executed in a masterly manner. To those of us who live in the South, and especially those interested in the medical, social and economic problem of the negro, the book will prove to be an excellent source of material. The statistical data are so arranged as to afford no hardship in reading the book. A fine bibliography and index add to a well written and pointed book.

I. L. Robbins, M. D.

Pneumonia and Serum Therapy: By Frederick T. Lord and Roderick Hefron. New York, Commonwealth Fund, 1938. Pp. 148. Price $1.00.

This small volume is a revision of "Lobar Pneumonia and Serum Therapy" which first appeared in 1936 as a result of the five-year study initiated in 1931 by Dr. George H. Bigelow of the Commonwealth Fund. In ten clear and concise chapters the full clinical implications of serum therapy are given, and there is adequate discussion of the selection of proper cases for serum therapy, the indications and contraindications for specific treatment, the identification of the type of pneumococcus causing the pneumonia, and detailed description of the mode of administration of the serum with due attention to the precautions to be observed and the treatment of the untoward effects. The results of serum treatment are summarized in the concluding chapter.

It is no longer necessary to argue the value of serum therapy for certain types of pneumonia; its efficacy has been proved beyond question. The large literature which has accumulated during the years of use of specific sera has lead to confusion in the minds of those who are not constantly affected by the pneumonia problem. The authors have therefore rendered practitioners in general a great service in presenting for them the most authoritative plan of treatment, placing the greatest emphasis at all times on the "practical" considerations and avoiding ambiguity of statement. The liberal inclusion of charts and diagrams makes intrepretation of the text clearer and more vivid.

This book is recommended unhesitatingly for any practitioner who wishes either quick reference or more leisurely reading.

Sydney Jacobs, M. D.

Text Book of Ophthalmology: By Sanford Gifford, M. A., M. D., F. A. C. S. Philadelphia, W. B. Saunders Co., 1938. Pp. 492. Price $4.00.

Ophthalmology is indebted to the author for one of the best small text books in our specialty which has ever been written in this country. Although it is primarily intended for the beginner, being a small volume of about five hundred pages, the most experienced may read it and learn. The material is well selected and organized. The illustrations are ample and the table of contents complete. It is more readable than the average text book because the author has put into it some of himself. His broad knowledge and pleasant personality show themselves between the lines.

In subsequent editions which probably will follow shortly, the following suggestions occur to me. The classification used by the Commonwealth Foundation would help especially the beginner in creating a skeleton around which to clothe his future knowledge. The chapter on refraction could be made more practical and useful. Some of the illustrations are not sufficiently illustrative.

Many roads lead to Rome and we all think our road is the best; and for us, it probably is. Minor differences of opinion do not alter my admiration for this outstanding book. I have said and written during the past ten years that the most frequent form of subacute and chronic conjunctivitis is essentially seborrheic; the author believes that the diplobacillus is the causative organism. Perhaps we are both right in that climatic and other differences may explain an apparent discrepancy.

It is obviously impossible to detail even the outstanding ideas in a textbook of this sort which must be read and re-read for proper evaluation.

In conclusion, I congratulate Dr. Gifford on what promises to be the most popular text book in ophthalmology within the next five or ten years.

CHARLES A. BAHN, M. D.

A Manual of Tuberculosis For Nurses and Public Health Workers: By E. Ashworth Underwood. Baltimore, William Wood and Company, 1938. Pp. 404. Price $3.25.

Interest in tuberculosis control has increased of late, and the public health aspects have been stressed accordingly; yet there has been comparatively little attention paid to preparation of books designed especially for nurses in this field. It is astonishing that there is no recent American work describing the disease in terms intelligible to the student nurse and at the same time detailing the bedside care of the tuberculous patient.

This deficiency is met by "A Manual of Tuberculosis." Dr. Underwood has chosen his material with care and has provided a work which will be of great assistance to the student or to the graduate nurse. Throughout the text, clinical implications have been stressed, and clinical concepts have been reduced to the simplest of terms. A glossary at the end of the book makes this even more efficient. The portions pertaining to concepts in pathology and immunology have been written in an interestingly concise manner. The involvement of the various special systems is adequately treated. The bedside attention to the patient is stressed, and such details as care of the hair and care of the skin are described more fully than in most American texts.

As a basic text for use in teaching tuberculosis to nurses, this book is unhesitatingly accepted.

SYDNEY JACOBS, M. D.

PUBLICATIONS RECEIVED

F. A. Davis Company, Philadelphia: Injection Treatment of Varicose Veins and Hemorrhoids, by H. O. McPheeters, M. D., F. A. C. S., and James Kerr Anderson, M. D., F. A. C. S. Materia Medica by Oscar W. Bethea, M. D., Ph. G., Ph. M., F. C. S., F. A. C. P.

Paul B. Hoeber, Inc., New York City: Industrial Surgery by Willis W. Lasher, M. D., F. A. C. S.

Lea & Febiger, Philadelphia: Cause and Prevention of Disease by William Harvey Perkins, M. D. Practical Otology, Rhinology and Laryngology by Adam Edward Schlanser, M. D.

J. B. Lippincott Company, Philadelphia: The New International Clinics, Vol. II, June, 1938, edited by George M. Piersol, M. D.

The Macmillan Company, New York City: Alcohol: One Man's Meat by Edward A. Strecker, A. M., M. D., Sc. D., and Francis T. Chambers, Jr.

Medical Success Press, Youngstown, Ohio: The Romance of Proctology by Charles Elton Blanchard, M. D.

C. V. Mosby Company, St. Louis: Synopsis of the Diagnosis of the Acute Surgical Diseases of the Abdomen by John A. Hardy, B. Sc., M. D., F. A. C. S.

W. B. Saunders Company, Philadelphia: Medical State Board Questions and Answers by R. Max Goepp, M. D.

Charles C. Thomas, Springfield, Illinois: The Biology of Arteriosclerosis by M. C. Winternitz, M. D., and R. M. Thomas, M. D., and P. M. LeCompte, M. D.

William Wood and Company, Baltimore and New York City: A Manual of Practical Tropical Sanitation by J. Balfour Kirk, M. B., Ch. B., M. R. C. P., D. P. H., D. T. M. & H. The Biological Standardisation of the Vitamins by Katharine H. Coward, D. Sc. Organization, Strategy and Tactics of the Army Medical Services in War by T. B. Nicholls, M. B., Ch. B. The Infant by Eric Pritchard, M. A., M. D. (Oxon.), F. R. C. P: (Lond.) Emergency Surgery by Hamilton Bailey, F. R. C. S. (Eng.). Papers on Psychoanalysis by Ernest Jones, M. D., M. R. C. P. (Lond.).

Williams and Wilkins Company, Baltimore: The Chemistry of the Sterids by Harry Sobotka. The Pituitary Gland, an investigation of the most recent advances, Proceedings of the Association for Research in Nervous and Mental Diseases, New York, December 28 and 29, 1936.

New Orleans Medical
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Vol. 91 AUGUST, 1938 No. 2

THE FAMILY DOCTOR*

C. C. de GRAVELLES, M. D.
NEW IBERIA, LA.

During the great exodus from general practice to the specialities several years ago, many thought that the family doctor was a thing of the past. Time has shown, however, that he will always remain a part of the practice of medicine—an essential and highly desirable part. The general practitioner, the family doctor, is the first thought when a medical or surgical emergency arises in the home. Through the general practitioner the patient is, in the vast majority of instances, first brought into contact with the medical profession. Even if this great specialist, this specialist in family practice, decides that the skill of another specialist is required, he has at least served as a clearing house for the case.

The older ones of us who have known personally and with some degree of intimacy a general practitioner of the horse and buggy days of our civilization, can well appreciate the wide variety of changes which have affected the practice of medicine during the past fifty years. The science of medicine has progressed more in these fifty years than in the preceding ages since the coming of man. While this great progress was being made in the science of medicine, equal progress was made in the other sciences. The American public is daily confronted, in industry, business and home, with changes designed to increase efficiency or comfort. Living in such an age, we cannot blame the laity for applying the modern yardstick to the medical profession. More people are reading now, and, due in large part to publicity given in the lay press to the proceedings of all scientific meetings, it is possible for them to read more about medicine than heretofore. This attitude of the general public places upon the practitioner the responsibility of keeping up with the continuous advances in medicine.

Whether it be for the relief of pain or for improvement in function, it is the search for treatment that brings most patients to the physician. But before appropriate treatment can be prescribed, an accurate diagnosis must be made. Thus, the general practitioner of today must possess keen diagnostic ability. By the use of adequate time, properly attuned senses, and logical thinking, the general practitioner can make a proper working diagnosis in the vast majority of his cases. Having arrived at a proper diagnosis, treatment is in order. The next question is: What shall we prescribe or dispense?

Medicine is defined as: "(1) Any drug or remedy; (2) the art or science of healing diseases, especially by the administration of internal remedies." In most of our states the osteopath is permitted to practice most branches of surgery and physical therapy; in many, the chiropractor has only slightly less authority; and the Christian Scientist, the faith healer, and many other pseudo-medical cults and isms, practice their more or less gentle arts unmolested. But we, and we alone, as Doctors of Medicine, are legally entitled not only to practice surgery and to do all that can be done by any and all of these means to alleviate pain and cure or arrest disease, but we in addition have the authority to administer such medicines as the case in hand seems to require. We should not complain when others, whom we stigmatize as incompetent, make use of healing measures which they have as good a legal right to employ as we have, while we continue to neglect the cultivation and development of the one line of therapeutics to which our right is exclusive.

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*Chairman's address presented before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 3, 1938, at New Orleans.

In our strenuous efforts to keep up with the latest discoveries and announcements regarding ultraviolet, infra red and so forth, let us not become so absorbed as to forget that we are Doctors of Medicine. While physical agencies and surgical and laboratory technics have been rushing forward at an astonishing pace, internal medicine has not been standing still. Hundreds of the well-known prescriptions have been prepared by pharmaceutical manufacturers and are now available for dispensing or the immediate filling of prescriptions. The decision to use or to avoid a new preparation, particularly when it is enjoying a wave of lay and even medical popularity, is a difficult one, and a problem which repeatedly confronts the general practitioner. If there is any short rule to cover this, it is to use care and caution in the adoption of any new drug. The discovery and development of new and powerful drugs has been as notable a feature of the last decade or two as has the invention of new pieces of apparatus; and the development of the technic and application of medication has been no less significant than the progress in other technical lines.

Let us study our drugs, new and old, and the most modern and effective methods of administering them; let us study our patients, intensively and individually. Thus, and only thus, can we hold our rightful place as Doctors of Medicine, and keep this branch of science on the high plane to which it is justly entitled. When we have done this we can honestly and fearlessly challenge any or all who would try to supplant us in the gratitude of our patients and in the respect and esteem of our communities.

SYPHILIS

A SYMPOSIUM*

GENITO-URINARY ASPECT

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In 1767 John Hunter contracted gonorrhea, chancroid and constitutional syphilis after inoculating himself with pus from a virulent case of gonorrhea. Hunter's theory that all three diseases were caused by gonorrheal pus was disproved in 1838 by Ricord. The causative agent, Treponema pallidum, was discovered by Schaudinn and Hoffmann in 1905. The incubation period of the primary lesion is 10 to 30 days and the site of predilection is the corona or the inner leaf of the prepuce, near the glans. The lesions are painless, indurated, usually single and 70 per cent are associated with enlarged painless adjacent lymph nodes.

Syphilis of the urethra occurs in approximately 4 per cent of the penile chancres and is usually found at or near the fossa navicularis. Pain, discharge and induration are the principal symptoms and signs. The pain occurs at the end of micturition, the discharge may be watery, seropurulent or bloody, while the induration varies from a firm to a cartilaginous type. The diagnosis is not difficult if one realizes the possibility of its existence. The luetic lesions may progress to ulceration, phagedena and stricture formation. Primary lesions have to be differentiated from chancroids, multiple herpetic eruptions and epitheliomas. A diagnosis is made by dark field examination, local and blood Wassermann. However, it may be necessary to resort to a biopsy for a correct diagnosis.

Tertiary syphilis appears as an ulceration or a gumma eight to twenty years after the primary lesion and is usually located at the head of the penis. The diagnosis is made by a careful physical examination, examination of the discharge and a Wassermann. The lesion must be distinguished from gangrenous balanitis and epithelioma. Phagedena, fistula and stricture formation may be complicating factors.

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*Read before the Orleans Parish Medical Society on November 8, 1937.

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The treatment is essentially antiluetic and the prognosis is good if treatment is begun early and particularly before stricture formation and much tissue destruction has taken place.

Extragenital chancres occur in 6 per cent of the cases and may be found on any surface of the body except the hair, nails and teeth.

Syphilis of the prostate is rare, produces few symptoms and presents no characteristic sign. It becomes manifest as late as 39 years after the primary lesion. A diagnosis may be made by a biopsy or ventured in the presence of a positive Wassermann where the symptoms subside under specific treatment. The treatment is antiluetic.

Syphilis of the seminal vesicles is so rare that it is seldom seen at postmortem. Syphilis of the spermatic cord is rare. Gummas have been reported in seven cases. Clinically, there is either a thickening or a tumefaction of the spermatic cord. In such cases, tuberculosis and tumors have to be ruled out. The diagnosis is difficult. The treatment is antiluetic.

Syphilis of the epididymis may appear in the form of an acute or chronic interstitial epididymitis or as a gumma. In the acute and chronic forms the lesions may appear as late as five and seven years respectively after the primary lesion. The characteristic feature of the disease is that it first attacks the globus major and spreads by extension. Gummas present themselves as multiple lesions which may break down with fistula formation. The diagnosis is difficult and is made on the history of infection, the location of the lesion and a positive Wassermann. The treatment is antiluetic but if extensive fibrosis has occurred an epididymectomy may be necessary for the relief of pain.

Syphilis of the testicle occurs as an interstitial orchitis or as a gumma. Symmers states that 39 per cent of late acquired syphilis shows testicular involvement while Herman is of the opinion that the bone marrow and testicle contain spirochetes before the appearance of the chancre. Hinman states that pathologically the testicles of all syphilitics may be said to be diseased. If the orchitis is sufficiently extensive there is a loss of sexual desire and sterility. In interstitial orchitis the testicle is usually smooth and indurated while in gumma formation the testicle is enlarged, rounded, nodular, heavy and insensitive to pressure. The lesions have to be differentiated from neoplasm and tuberculosis. Doubtful cases should be explored and then, if the diagnosis is not certain, the testicle should be removed.

Syphilis of the bladder occurs in the secondary and tertiary stages. A syphilitic cystitis occurs during the stage of severe secondary eruptions and produces the symptoms of acute and chronic cystitis. Cystoscopically one may see congestion, mucous patches, ulceration, and, in untreated cases of long standing, a papular syphiloderm which may have all the characteristic appearances of papilloma of the bladder. The diagnosis is based on a history of infection, positive Wassermann tests, biopsies and the ruling out of other forms of cystitis.

In tertiary syphilis of the bladder hematuria is the most constant sign. Cystoscopically one sees ulcerations with infiltrated edges. This condition has to be distinguished from carcinoma, simple, and tuberculous cystitis and from the elusive ulcers of Hunner. The treatment is antiluetic.

A tabetic bladder in the late stages presents typical findings yet in the early stages frequency, dysuria, with or without residual urine, may be present without tabetic symptoms. In the latter case, a diagnosis may be ventured on the presence of a positive spinal fluid and the absence of certain reflexes. The cystoscopic picture of a tabetic bladder depends on the duration, extent and severity of nerve destruction. In general, the bladder tone is poor, the bladder capacity is great, the walls of the bladder are trabeculated, the interureteric bar is elevated, with the formation of a deep bas-fond, and the bladder neck is relaxed. The diagnosis may be difficult in the presence of a median bar or prostatic hyperplasia. The systemic treatment is that of cerebrospinal lues. Local treatment should be resorted to as seldom as possible and is usually necessary merely to combat complications. In uncomplicated cases with a normal urea the bladder should not be disturbed. Teaching the patient to compress the suprapubic region with his hands is a distinct aid in emptying the bladder. Fluids should be given freely and urinary antiseptics used. The prognosis depends on the amount of irreparable nerve destruction, cardiovascular involvement, the presence of infection and the general condition of the patient. Patients usually die from renal insufficiency or infection.

Syphilis of the ureter is rare. It is recognized only at autopsy.

Syphilis produces acute parenchymatous nephritis and gumma of the kidney. Acute parenchymatous nephritis is characterized by progressive edema, weakness, anemia and the passage of small amounts of urine. The urine contains albumin, lipoid substances and casts. The kidneys are large and grayish-yellow. Microscopically the glomeruli are intact but there is cloudy swelling and fatty degeneration of the tubules. In severe cases small doses of arsphenamine should be given. Bismuth and mercury are advised after the edema has subsided. When properly treated the edema disappears within several weeks, the urine increases in amount but the albumin remains.

Gumma of the kidney becomes evident seven to twenty years after the original infection as circumscribed miliary nodules of varying sizes in the cortex of the kidney. The lesions may undergo degeneration, and open in the pelvis. Gummas have been observed at operation but it is doubtful if any have been diagnosed preoperatively. In the presence of a pyelographic deformity, a positive Wassermann and improvement under antiluetic treatment a diagnosis is possible. However, all doubtful cases should be explored.

SUMMARY

Urogenital syphilis is a common expression of a very prevalent and important disease.

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MEDICAL ASPECTS OF SYPHILIS

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The principal medical problems which syphilis presents to the physician relate to the diagnosis of visceral and cerebrospinal syphilis, and to the recognition of latent or asymptomatic syphilis in patients whose symptoms are due to other causes. The problem of treatment should give him much less concern, for specific treatment of late syphilis is never an emergency measure, and once the diagnosis is made, there is ample time to review the therapeutic details in the standard textbooks, such as those of Moore, Stokes, and Schamberg and Wright. It is very important, however, that the clinician familiarize himself with the details of the treatment of late syphilis of the different internal organs if he is to escape disastrous results. A good rule is to proceed with great caution in the treatment of syphilis which involves vital organs, such as the heart and liver, and with more aggressiveness in the case of less vital structures, such as the stomach, skin and bones.

It has been stated that a high index of suspicion is a principal prerequisite to the diagnosis of syphilis. This, of course, is true, but it is also true of the diagnosis of all diseases whose symptoms may be obscure or equivocal, and the physician must recognize these diseases as well as syphilis. Too high a suspicion index toward one or a few diseases will inevitably cause others to be missed. Better than unjustified suspicion is thoroughness and a reasonable amount of knowledge.

STUDY OF THE PATIENT

The thoroughness should consist of a complete account of the patient's symptoms, the story of his past illnesses, his family and social histories, a carefully performed physical examination, and a certain minimum of routine laboratory tests. A blood Wassermann test should be a routine procedure in the examination of all office as well as hospital patients; its cost to the patient is small, and it is just as apt to give valuable diagnostic clues as is the urinalysis, or blood count, or stool examination. A positive Wassermann is often the only symptom of latent syphilis, and is frequently the most valuable clue in establishing the syphilitic nature of visceral lesions. The thoroughness should further include a careful appraisal of the data gathered in the case work-up; frequently enough the evidence of syphilis is ascertained only to be ignored or overlooked.

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The "reasonable amount of knowledge" should include a clear concept of the lesions that may be present in late syphilis, and of the manifestations that may be due to these lesions. It should also include a very definite knowledge regarding points in the past history that are suggestive of syphilis. If this knowledge is at hand and the physician is thorough, it is not likely that the suspicion of syphilis will fail to appear if the patient actually has syphilis. Frequently, however, the physician will not be able, from the routine work-up and his reasonable knowledge, to confirm or to clear his suspicion; in this case, he must resort to special methods of investigation, such as the spinal fluid Wassermann, the provocative Wassermann, and the therapeutic test, and to further reading so that his knowledge may be increased.

THE LESIONS AND MANIFESTATIONS OF LATE SYPHILIS

The overwhelming majority of late syphilitic lesions involve the skin, the bones, the central nervous system, and the heart and aorta. Clinical involvement of other viscera is much less frequent, but syphilis of the stomach, liver, spleen, bronchi, and lungs occurs sufficiently often to be clinically important. Although cutaneous, osseous and cerebrospinal syphilis do not fall within the scope of this discussion, it should be remembered that changes in the skin or bones, or abnormalities of the reflexes may furnish important inferential aid in the diagnosis of visceral or asymptomatic syphilis.

Involvement of the aorta is the most important syphilitic lesion which lies within the field of the internist. Syphilitic aortitis may lead to aneurysm, and in addition may affect the heart in two ways: first, by causing the development of aortic regurgitation; and second, by being responsible for narrowing or occlusion of the coronary arteries at their mouths. The symptoms of aortitis are thus the symptoms of aneurysm, of coronary disease, or of cardiac insufficiency. The signs in far advanced cases are those of aneurysm or of aortic regurgitation, or of both. In cases of aortitis without aneurysm or regurgitation, there may be no signs or one or more of the following may be present: accentuation of the aortic second sound; systolic aortic murmur; slight or moderate dilatation of the aorta as seen by the fluoroscope or in the roentgen ray plate; changes in the electrocardiogram affecting principally the T waves.

Syphilis of the liver is quite common, probably occurring in as great as 15 per cent of all cases of syphilis, but significant symptoms due to syphilitic liver disease are not frequent in medical practice. The clinical types of late hepatic syphilis include the following: mild types of late hepatic syphilis, producing asymptomatic enlargement of the liver; diffuse gummatous hepatitis, or syphilitic cirrhosis; circumscribed gumma of the liver and perihepatitis. Syphilitic cirrhosis may mimic Laennec's cirrhosis in all its clinical symptoms, or may be confused with malignancy of the liver if, as often happens, the palpable portion is grossly nodular. Gumma and perihepatitis may cause the appearance of tumors in the upper abdomen which may be mistaken for tumors of the gallbladder, pancreas, or stomach. Long continued low grade fever is frequent in hepatic syphilis.

Syphilis of the spleen commonly co-exists with hepatic syphilis; it may only produce asymptomatic splenomegaly, or may give rise to a Banti-like syndrome.

Syphilis of the stomach is not common, although patients with syphilis frequently have complaints referable to the stomach. These complaints are for the most part due to cerebrospinal syphilis, to non-syphilitic disease of the gastrointestinal tract, and to neurasthenia. Stokes reported that of 200 patients with syphilis who complained of gastric trouble, only eight had true syphilis of the stomach.

Syphilis may cause a diffuse or localized gummato-ulcerative lesion of the stomach which closely mimics carcinoma, and is also thought to be responsible for an uncertain percentage of cases of gastric (not duodenal) ulcer. The principal points in differentiating gastric syphilis from cancer are, in the former, the lower age incidence (average age 35 years), the absence of blood in the gastric contents, the much slower development of cachexia, the preservation of a good appetite, the Wassermann reaction (positive in 90 per cent), and the prompt response to anti-syphilitic treatment. The physician must not be too syphilis conscious in his consideration of gastric lesions, lest he fail to realize his ambition of turning over to the surgeon a patient with a curable cancer of the stomach.

Syphilis of the small intestine and colon are almost unknown. Syphilis of the rectum, formerly considered to be the most common cause of stricture, is now known to be quite rare.

Bronchial and pulmonary syphilis are also rarities. Bronchial syphilis may consist of obstructive lesions that may be confused with carcinoma; pulmonary syphilis may be manifested as a solitary gumma, or as a diffuse infiltrative lesion that may be mistaken for tuberculosis. The differentiation lies in the collateral evidence of syphilis and the repeated absence of tubercle bacilli from the sputum.

DIAGNOSTIC DATA

Keeping in mind the few facts just given regarding visceral syphilis, we may enumerate some of the data which, if present in the case record of a patient, should suggest to the physician the possibility or probability of syphilis. Some of these points are only slightly suggestive, others are strongly so; only a few, if taken alone, are definitely diagnostic.

In the past history: (1) genital lesion; (2) rash which might have been secondary lesions; (3) gonorrhea (25 per cent of patients with syphilis give a history of gonorrhea, with no recollection of a chancre or secondary rash, according to Stokes); (4) positive Wassermann reaction; (5) repeated miscarriages.

In the present illness: (1) Angina pectoris or cardiac pain in patients under 45 or 50 years of age; (2) symptoms of cardiac insufficiency in the same age group; (3) the picture of coronary occlusion in the same age group; (4) neurasthenic symptoms appearing for the first time in persons past 35; (5) symptoms suggesting cancer of the stomach in persons under 40; (6) symptoms suggesting disease of the central nervous system, the cause of which is not apparent, especially hemiplegia or convulsive seizures in relatively young subjects whose blood pressures are not high; (7) unexplained prolonged fevers.

In the physical examination: (1) genital scars, or scars which bear the earmarks of early or late cutaneous syphilis; (2) lymphadenopathy, general, or epitrochlear, or posterior cervical; (3) stigmata of congenital syphilis—rhagades, Hutchinsonian teeth, saddle nose; (4) accentuation of the aortic second sound, or systolic aortic murmur, or both, in a non-hypertensive subject under age 50; (5) signs of aneurysm or of aortic regurgitation; (6) unexplained enlargement of the liver or spleen; (7) unidentified masses in the upper abdomen; (8) abnormalities of the pupils—inequality, irregularity, or changes in the reflexes; (9) abnormalities of the deep reflexes, especially absence or diminution; (10) positive Rhomberg test.

In the laboratory examination: (1) Positive Wassermann reaction.

CONCLUSIONS

Finally, the physician should be acutely aware of the fact that a single negative blood Wassermann does not rule out syphilis if other data have given rise to a definite suspicion of its presence. In such a case, simple repetition of the Wassermann may disclose a positive reaction, or the Wassermann test of the spinal fluid may be positive. Negative reactions in both the blood and spinal fluid will probably be encountered in less than 10 per cent of all cases of syphilis. Provocative Wassermanns should occupy a very small place in the diagnosis of visceral syphilis, especially in the case of suspected cardiac or hepatic disease, because of the disastrous results that may follow a Jarish-Herxheimer reaction in lesions of these vital organs. The therapeutic test is safer, but it should be remembered that clinical improvement in luetic aortitis and diffuse hepatic syphilis can be expected only in early lesions, before irreparable damage has been done. The corollary of this statement is the fact that the physician should make every effort to diagnose late syphilis in its asymptomatic or early symptomatic period, when specific therapy yet offers hope of cure or arrest of the syphilitic lesions.

CUTANEOUS SYPHILIS

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With the advent of the improved laboratory diagnosis of syphilis which we are experiencing today the enigma of the clinical diagnosis of syphilis has been partly alleviated. The keenness of observation which was characteristic of the old clinician, enabled him to diagnose fairly accurately much of the cutaneous syphilis that presented itself. This diagnostic acumen is made even more impressive when it is considered that the cutaneous syphilids of former years offered a much more difficult task than those that we see today. The eruptions were more virulent and required keener diagnostic qualifications. Indeed fulminating pustular, secondary syphilitic eruptions were common and the differential diagnosis from smallpox was a difficult one, especially in a patient with a preexisting syphilitic infection.

Deaths from acute syphilitic infection are extremely rare today, but in the prearsenical days they were not at all uncommon. There are many factors to be considered in the cause of the attenuation of secondary syphilids and a few are: (1) intensive method of therapy which prevents fulminating secondaries; (2) better diagnostic aids, especially the blood Wassermann and dark field examination; (3) possibly the attenuation of the strains of the causative spirochetes themselves. Analogies to this situation or phenomenon occur in other infectious diseases such as tuberculosis and diphtheria to mention only a few. (4) The increased resistance of the host must be considered although it is a moot question. Probably our present therapeutic endeavors are preventing severe cutaneous reactions and if that be the case it is not too radical to believe that the marked increase of visceral and central nervous system manifestations of syphilis that exist today may be due to a diminished immunity brought on by the absence of the severe cutaneous reactions of former years. Certainly the late sequelae are more frequent today, but possibly better diagnostic aids detect more of these complications than were formerly diagnosed.

The time allotted for this presentation is far too short to permit even a brief smattering of remarks concerning the cutaneous aspects of this great imitator so I shall endeavor to present the subject in outline form merely to stimulate interest in these bizarre syphilids.

Syphilis has wrongly been classed as a venereal disease as it is venereal only by biologic accident or necessity; (1) it requires warmth in its initial stage for the spirochetes to propagate; (2) it requires moisture as it soon dies out when dried; (3) it also requires thin skinned areas in order to enter the integument or mucous membrane.

All of these conditions are found in the genital areas so most of the primary lesions or chancres are found there. Fully 8 to 10 per cent of primary lesions are extragenital and are not associated with sexual relations. The French call the extragenital chancres "syphilis insontium" or syphilis of the innocent and in many cases they are just that.

The subject of syphilis has been brought out into the light of present day knowledge and discussion and today the problem of syphilis is a topic of discussion in every branch of society. Time necessitates a concise presentation so I shall begin with an outline of the earliest cutaneous lesions and present the type of lesion, the differential diagnosis and the diagnostic criteria of this earliest stage of syphilis—the "hard" chancre.

PRIMARY SYPHILIS (CHANCRE)

Genital—at least 90 per cent of the lesions occur on the genital areas, either internal or external. Many primary lesions in the female are undiscovered because of the anatomic structure of the host and the fact that chancres uncomplicated are painless.

GENITAL CHANCRES

MORPHOLOGY IN THE MALE	DIFFERENTIAL DIAGNOSIS
Chancre of urethra	Papilloma
Chancre of meatus	Erosive meatus
Chancre of foreskin	Balanitis gangrenosa Pseudochancre redux Traumatic excoriations Parasitic infestations Mycotic infections Condylomata lata Mucous patches

Chancre of glans	Lichen planus Gumma Chancroid Herpes progenitalis Epithelioma
Chancre of corona	Erythema multiforme
Chancre of prepuce	Balanoposthitis
Chancre of frenum	Tuberculous lesions
Chancre of shaft of penis	Psoriasis Scabies Pyodermia Sebaceous cysts Dermatitis venenata
Chancre of scrotum	Intertrigo Venereal warts Granuloma inguinale Lymphogranuloma inguinale Pediculosis Tenial dermatitis Secondary syphilids

GENITAL CHANCRES

DIFFERENTIAL DIAGNOSIS	MORPHOLOGY IN THE FEMALE
Chancre of labium majora Chancre of labium minora	Vulvitis Varicocele of vulva Cellulitis Condylomata acuminata Condylomata lata Mucous patches Sebaceous cysts Hematoma Chancroid Gumma Carcinoma Tuberculosis Herpes vulvae Mycotic infection Ulcus rodens vulvae Granuloma inguinale Lymphogranuloma inguinale Gangrene Ulcus acutum vulvae Elephantiasis vulvae
Chancre of urinary meatus	Erosive meatus
Chancre of clitoris	Tuberculosus lesions Malignancies
Chancre of vagina	Chancroid Carcinoma Ulcers Fistulae Aphthae Cysts Gumma Colpocele
Chancre of cervix	Polyps Ulcers Pregnancy Epithelioma

Extragenital chancres—8 to 10 per cent of the primary lesions are extragenital and present a real diagnostic problem.

MORPHOLOGY	DIFFERENTIAL DIAGNOSIS
Chancre of lip	Epithelioma, gumma Aphthae, herpes simplex Chilitis, pseudochancre redux Tuberculosis, sarcoid, pyogenic granuloma Chancroid, sporotrichosis, anthrax Blastomycosis, hemangioma
Chancre of finger	Tuberculosis Mycotic infection Sarcoma epithelioma
Chancre of nipple	Epithelioma Seborrheic dermatitis Fungus infection Tuberculosis Paget's disease Fissures Traumatic excoriation
Chancre of gums	Gingivitis Abscess Vincent's infection
Chancre of tonsils	Diphtheria Vincent's angina Carcinoma Lymphosarcoma

Chancre of eyelid	Herpes facialis Erysipelas Phthiriasis
Chancre of tongue	Tuberculosis Epithelioma Secondary syphilis Gummata Geographic tongue Mycotic infection
Chancre of anus and rectum	Carcinoma Tuberculous lesions

DIAGNOSIS OF PRIMARY SYPHILIS

The diagnosis in this early stage is most necessary if the highest percentage of cures is to be obtained. The diagnosis resolves itself into clinical and laboratory procedures.

CLINICAL DIAGNOSIS

The clinical characteristics are misleading and should be guarded. The stigma of syphilis should not be placed on an individual until definite proof is obtained. Every venereal lesion should arouse suspicion but do not go off on a tangent and diagnose syphilis unjustly. All lesions showing induration, slow healing and an associated satellite adenopathy, even though the lesions are extragenital, require differentiation from primary syphilis. The laboratory aids at our disposal today make the differential diagnosis easy in most cases.

LABORATORY DIAGNOSES OF PRIMARY SYPHILIS

The dark field examination is the best aid as the spirochetes usually abound in untreated, moist, primary lesions at least a week to ten days before the blood Wassermann test becomes positive. Any mild antiseptic destroys the spirochetes in local lesions, so no treatment other than warm saline compresses should be used until the diagnosis is made. There should be a law prohibiting druggists from prescribing ointment and solutions for use on genital lesions that have not been diagnosed.

A local Wassermann taken from the serum of the chancre or the aspirated bubo is of distinct aid in early cases. Later the blood Wassermann is an adjunct to diagnosis but serologic follow-up should be done in questionable cases. Staining methods both silver and India ink technics are diagnostic when smears are made from the exudate as well as from biopsied material taken from the chancre.

TREATMENT OF PRIMARY STAGE

Treat to cure in this phase of syphilitic infections and start promptly, but use small doses of arsenicals at the onset or even an intramuscular heavy metal such as bismuth first to prevent local Herxheimer reactions. The hope of cure in the primary stage when treatment is adequate and proper exceeds 95 per cent, discounting the occurrence of reactions due to intolerance or idiosyncrasy.

SECONDARY SYPHILIDS

The secondary cutaneous stage of syphilis appears usually about three to ten weeks after the appearance of the primary lesion (chancre). I like to think of this stage as a cutaneous manifestation of an effort on the part of the human economy to rid itself of these myriads of spirochetes which are infesting the blood stream. The best way to eliminate these organisms is through the skin which is one of the really important excretory organs or systems. Conditions analogous to this effort on the part of the host are found in certain infectious diseases characterized by bacteriemia and septicemia accompanied by cutaneous eruptions; such examples are the petechiae of meningococci meningitis, the rose spots of typhoid fever and some of the acute exanthema such as measles, scarlet fever, and variola. When these spirochetes which infest the blood stream in the "spirochetemic" or secondary stage of syphilis are thrown into the peripheral circulation they are deposited in the skin as localized secondary lesions. If they are deposited in a moist, intertrigenous area where the top or surface of the skin is eroded then they are very infectious; examples of such moist lesions are condylomata lata, mucous patches and eroded papules. They usually occur at mucocutaneous junctions in mucous membranes or in intertrigeonus areas such as the groin, the perianal area, under pendulous breasts, between the toes or in the axillae. The secondary lesions if uneroded are relatively noninfectious, but caution must be taken with these cases as unseen lesions of the pharynx and mucous membranes are usually asosciated with the cutaneous eruption.

The secondary syphilids have certain characteristics which made possible their diagnosis prior to the contribution of Wassermann and Hati in 1909 of the modification of the Bordet-Gengou complement fixation reaction which we know today as the Wassermann test. This test is dependent upon the production of "reagen" in the blood produced by living spirochetes pallida; consequently it is practically always positive in this spirochetemic stage, the so-called secondary stage when the blood stream literally teems with the causative spirochetes.

The clinical characteristics of these bizarre secondary syphilids will be outlined shortly, but it is important to know that these eruptions occur at various times during this blood infested stage. Some of these secondary eruptions occur relatively late in the disease, while others appear early in some cases while the chancre is still present; consequently it is necessary to divide the morphologic classification of these secondary syphilids into early and late secondary eruptions. There is no distinct line of differentiation between the late secondary stage and the early tertiary manifestations on the skin, but from a clinical and therapeutic standpoint this is of very little importance, as the treatment of both stages is similar.

Because of the polymorphous and bizarre character of the secondary eruptions of syphilis, George Henry Fox[1] in 1913, submitted a classification of these secondary manifestations on the skin. His classification was adopted by the American Dermatological Association at its Thirty-eighth Annual Meeting held in May, 1914. The following classification of these secondary acquired syphilids is a modification of Fox's excellent presentation.

EARLY SECONDARY SYPHILIDS

Macular
Follicular
Small papular
Lichenoid
Pseudovesicular
Psoriasiform
Corymbiform

LATE SECONDARY SYPHILIDS

Mucous patches
Large papular
Annular
Condylomata lata
Pustular
Rupial
Frambesiform
Alopecias
Pigmentary

CLASSIFICATION OF SECONDARY SYPHILIDS

MORPHOLOGY	DIFFERENTIAL DIAGNOSIS
Macular and maculopapular	Seborrheic dermatitis Tenia versicolor Pityriasis rosea Maculoanesthetic leprosy Measles Typhoid fever (rose spots) Toxic dermatitis Dermatitis medicamentosa (drug rash) Erythema multiforme
Papular	Psoriasis Pityriasis rosea (papular form) Keratosis Variola Pityriasis lichenoides chronica Lichen planus Papulonecrotic tuberculid Urticaria pigmentosa Nodular leprosy Mycosis fungoides Erythema multiforme Adenoma sebaceum
Mucous patches (buccal)	Erythema multiforme Pemphigus Aphthae Periadenitis mucosae Lichen planus Glossitis Stomatitis (heavy metal) Herpes
Mucous patches (genital)	Herpes progenitalis Lichen planus Aphthae Pyodermia Parasitic infestation (scabies) Verruca vulgaris Ulcus acutum vulvae Tuberculous fissures
	Trichophytosis Seborrheic dermatitis (annular type) Impetigo contagiosa

Annulo-papular	Lichen planus Pityriasis rosea Erythema multiforme Granuloma annulare Chronic urticaria Psoriasis
Pustular and rupial	Variola Pyodermia Acne scrofulosorum (cachecticorum) Ecthyma Acne necrotica Papulonecrotic tuberculids Acne varioliformis Dermatitis medicamentosa Psoriasis Tenial dermatitis (corporus)
Alopecias	Alopecia areata Tenial dermatitis (tensurans) Lupus erythematosus Factitial alopecias Pediculosis capitis Leprosy Favus Seborrheic alopecia Alopecia associated with glandular diseases and blood dyscrasia Alopecia cicatrisata Morphea
Condylomata (eroded papules)	Verruca vulgaris Lymphogranuloma inguinale Granuloma inguinale Intertrigenous dermatitis (mycotic) Lichen planus Pyodermia Aphthae Pemphigus Dermatitis medicamentosa Epithelioma tuberculosis
Pigmentary	Vitiligo Dermatitis medicamentosa Saprophytic mycotic infection Xeroderma pigmentosum Erythema ab igne Factitial dermatitis Leprosy Chloasma Residual inflammatory dermatosis

There is much diversity of opinion concerning the grouping and classification of these syphilitic eruptions but the above outline represents a fairly inclusive list. Many of these eruptive stages are rare today but occasionally one crops up in a large clinic where great numbers of negro patients are seen. Some of the most bizarre syphilitic lesions are encountered in negro patients.

The diagnosis of secondary syphilids, like the primary lesions, is a problem embracing clinical and laboratory acumen. In this secondary stage the Wassermann is nearly always positive and the lesions comprising the eruption have certain landmarks which are diagnostic. All types of syphilitic eruptions in this stage are due to deposits of the causative spirochete in the skin with the exception of the macular or roseolar stage which is considered by many not to be a true syphilitic eruption but rather a protein eruption due to the massive amount of protein in the blood stream made possible by the spirochetes in the blood stream.

CLINICAL DIAGNOSTIC CRITERIA

During this stage there is frequently some degree of systemic response to the spirochetemia or mildly toxic condition made manifest clinically by malaise, sore throat, myositis and a general low grade septic picture occasionally. These symptoms are accentuated and present a picture of marked sepsis. There is generalized adenopathy at this stage. The eruption except the macular type which has already been mentioned is of a universal distribution with a symmetrical involvement. The face, especially the forehead, is usually involved. The individual lesions are indurated and have a subdued red appearance. The color is not a bright red one as seen in certain inflammatory conditions such as psoriasis, as the blood supply in the individual syphilids is not as marked as in certain of the acute inflammations. This subdued red appearance has been described by some as a "raw ham color" which to most of us is a quite variable term. There is usually no itching associated with the eruption, but here too we are dealing with a personal factor as the scratch impulse is not constant in any two persons. Generally speaking, however, the only type of secondary syphilid in which itching is commonly associated is the follicular or pseudovesicular variety. The eruptions appear gradually and the hyperpigmentation which frequently accompanies the rash is not permanent. True vesiculation in the acquired secondary stage is indeed rare and many good syphilologists doubt that vesicle formation ever occurs in this class of eruption.

The infectiousness of the eruptions depends upon the duration or age of the rash, and chiefly whether the lesions occur in moist intertrigenous areas and have eroded surfaces thus permitting the spirochetes to be accessible on surface contact. The individual lesions comprising a secondary syphilitic eruption may be likened unto cutaneous chancres—each is a potential source of infection if their surfaces become eroded and moist. Syphilitic involvement of the hair bulb causes a choking off of the blood supply to the root of some follicle and subsequent alopecia. This loss of hair is patchy and has a "moth eaten" appearance. The alopecia of syphilitic origin when occurring in the secondary stage of the disease is not permanent. The hair bulb will again begin to function as soon as the localized collections of spirochetes are destroyed, either by therapeutic intervention or by development of local tissue immunity.

The last two factors enter into the picture of every secondary eruption of syphilis as the rash will fade in time even without treatment. The residual pigmentary changes will likewise disappear in the course of several months. Except in the macular or roseolar type of eruption there may appear any accentuation of the skin lesions after the initial injection of an arsenical drug. This is known as a cutaneous Herxheimer and is evidence of the action of the drug on the localized collections of spirochetes in the skin which in the macular stage are not present as the roseolar is a protein, cutaneous manifestation, and not a classical syphilid.

LABORATORY DIAGNOSTIC AIDS

During this secondary stage the blood Wassermann is usually positive for reasons already given. It is safe to say that the complement fixation phenomenon is over 98 per cent positive under proper laboratory technics. A biopsy of skin lesions will show the presence of a specific granuloma of syphilitic origin and with proper silver impregnation staining as devised by Levaditti or some modification of same, the causative organisms can be detected in all varieties of secondary lesions, except the macular type. Time will not permit a discussion of the histologic picture, but it will suffice to say that is fairly characteristic. Other types of specific granulomata have to be ruled out, such as tuberculosis cutis, deep mycotic infections, or leprosy, but each has some classical features which are peculiar to the respective disease.

TREATMENT

In this early acute stage of the disease treatment is directed toward cure just as in the primary stage. Treat vigorously and if possible, use some form of intravenous arsenical injections, as arsenic has its highest value during the vascular stage of the disease. Arsenic has a very high spirocheticidal index but a low penetrating one and must be used to its fullest extent before the organisms become imbedded in the viscera. The two outstanding considerations in the treatment of a syphilitic eruption are first, the age of the patient and secondly, the age of the disease itself. The first factor determines the index of probable tolerance and the second indicates the type of drugs to be used and in what manner. Let me again emphasize the point that in early syphilis we treat to cure—believe this yourself and educate your patients to share your optimism.

LATENT OR ASYMPTOMATIC STAGE

This is the stage of syphilis that exists from the time all secondary manifestations disappear until the tertiary symptoms (cutaneous or visceral) become evident. The duration of this stage may vary from several months to many years. It is during this stage that the Wassermann reaction is indispensable for often no other indication of a syphilitic infection exists either visceral or cutaneous, and a positive serologic test rechecked gives a diagnosis which often can be confirmed by thorough physical check up, supplemented by roentgen ray and fluoroscopic examinations.

Since cutaneous eruptions are not a part of this asymptomatic stage we must not tarry too long on this most important phase, but must hasten to discuss the tertiary eruptions.

TERTIARY SYPHILIDS

These cutaneous syphilitic eruptions are late manifestations of syphilis and are usually associated with visceral or systemic syphilitic stigmata. The most common tertiary lesions are the gumma and the nodular lesions, but other varieties of this group are included in the following classification.

CLASSIFICATION OF TERTIARY SYPHILIDS

MORPHOLOGY	DIFFERENTIAL DIAGNOSIS
Nodular and ulcerative	Tuberculosis verrucosa cutis Blastomycosis Sporotrichosis Bromoderma Epithelioma Von Recklinghausen's disease Leprosy Lichen planus (verrucosus) Lupus vulgaris erythematoides Papulonecrotic tuberculid Keloids Granuloma inguinale Lymphogranuloma inguinale Dermatitis papillaris capillitii Erythema induratum Endothelioma Actinomycosis Hodgkin's disease Fibrosarcoma Rhinosphyma Ecthyma Mycosis fungoides (mycotic stage) Rhinoscleroma
Gummatous	Erythema induratum Verruca necrogenica (post-mortem wart) Lupus vulgaris Papulonecrotic tuberculid (folliclis) Factitial dermatitis Sporotrichosis Scrofuloderma Sickle cell anemia (ulcer) Stasis ulcer Marjolin's ulcer Anthrax Phagedenic ulcer
Psoriasiform and rupial	Psoriasis Seborrheic dermatitis Yaws Dermatitis medicamentosa
Squamous	Trichophytosis Lupus erythematosus Sarcoid (Boeck type) Rosacea Seborrheic dermatitis Dermatitis repens
Late lesions of mucous membranes	Leukoplakia (non-specific) Glossitis (factitial) Lichen planus Periadenitis mucosae necrotica Tuberculosis Geographic tongue Mycotic infection Tuberculosis cutis orificialis
Nails	Diseases showing changes in the nails comparable to syphilitic onychia are: tuberculosis, psoriasis, paronychia (non-specific) Blood dyscrasias (leukemia) Mycotic disease
Residual scarring	Tuberculosis scars Lupus vulgaris Tuberculosis colliquativa Erythema induratum Stasis ulcers Factitial lesions Deep mycotic infections: sporotrichosis, actinomycosis, blastomycosis

Pigmentary changes

Dermatitis medicamentosa
Lupus vulgaria
Tuberculosis verrucosa cutis
Urticaria pigmentosa
Lupus erythematosus
Scrofuloderma
Stasis ulcers
Deep and superficial mycotic infections
Factitial dermatitis
Dermatitis herpetiformis

This stage of cutaneous syphilis is relatively non-infectious and only in the lesions involving the mucous membranes or occurring at the mucocutaneous junctions where warmth and moisture are available, are the spirochetes recovered from the lesions in the active stage that would give a positive dark field examination.

The differential diagnosis of these lesions is quite an interesting one, and since we have come to depend on the Wassermann report for our diagnosis of syphilis too much, we often are deceived in this stage of syphilis and not over an 80 per cent positive index may be expected during this tertiary phase. The old clinicians in the pre-Wassermann days had to know the clinical characteristics of the lesions in order to diagnose them. Fournier was the first to observe that all nodular tertiary syphilids tend to group themselves into circular arrangement or segments of circles. This feature still holds and is of great aid in clinical differentiation.

CLINICAL DIAGNOSTIC AIDS

The tertiary syphilids are destructive. They are usually asymmetrical. Induration is again the picture presented by each lesion. The gummatous type is usually singular but the nodular variety are multiple and bilateral with formation of circles or segments of circles. The lesions are very indolent and the number is less numerous than in "secondaries". The lesions tend to heal centrally and spread peripherally and there is usually marked hyperpigmentation at the borders. This increase in pigment persists much longer than does the residual hyperpigmentation of secondary syphilids, in fact, the residuary pigment deposit is permanent following chronic ulcers of syphilitic origin in some individuals.

Unlike the secondary lesions these tertiary lesions tend to heal with scar formation. The scarring of syphilitic ulceration is quite classical and although all specific granulomata heal with scar formation the residual cicatrication of late syphilids is diagnostic.

LABORATORY DIAGNOSTIC AIDS

As previously stated, the blood Wassermann report is not infallible in this stage and an 80 per cent aid in diagnosis from this source is all we can hope for. This discrepancy in the blood Wassermann report can be in part overcome by the provocative Wassermann. The provocation of the Wassermann test is keenly questioned by some syphilologists but I find it a helpful diagnostic adjunct. I have discussed the value of the dark field in the tertiary syphilids and repeat only for emphasis that it is uniformly negative except in lesions involving moist areas such as those of the mucous membranes or of the mucocutaneous junctions.

In no stage of syphilis is the biopsy and histologic study of skin sections as indispensable as in tertiary lesions. The histopathologic picture offers the best differential diagnostic aid, while the cellular components of all syphilitic lesions from the chancre to the ulcerative gumma are practically the same, the degree or prominence of the various cellular elements and biproducts of some vary markedly. The microscopic picture of a specific granulomatous lesion of syphilitic origin, while not always classical, is diagnosable when examined by a histopathologist acquainted with the disease.

Often the blood Wassermann may be reported negative and a spinal survey will give the diagnosis, so it is wise to check the spinal fluid in late syphilis not only as an aid to initial diagnosis but to determine the presence of central nervous system involvement, especially parenchymatous changes. When all serologic tests are negative or not available and a biopsy is not practical the "therapeutic test" may be resorted to. This therapeutic test means just what the term indicates, namely that specific antisyphilitic therapy of a type suited to the case is instituted, and not infrequently the response of the cutaneous syphilids is phenomenal. The lesions resolve like magic in some instances, but the diagnosis cannot definitely be established as the non-specific effect of drugs used in treating this disease, both arsenicals and heavy metals, as well as the iodides and pyretotherapy, is striking.

Before starting treatment at this stage of the disease, more than in any other, a complete evaluation of the condition of the patient must be made. An equation of the condition of the patient in relation to the progress or age of the disease will give an answer as to how vigorously the patient should be treated. Do not, if avoidable, experience a therapeutic paradox wherein we treat so extensively as to cure the disease, but kill the patient by oversaturating an already weakened body. We cannot always hope for cure in this stage, but the disease can be arrested in most cases and prevent further inroads of the devastating infection.

We can prevent late visceral and central nervous system sequelae which may render the unfortunate victims public charges. Since the disease is chiefly an embedded visceral disease at this stage, drugs such as heavy metals and iodides with penetrating properties are indicated; especially arsenicals have their place in this stage also, but possibly secondary to the heavy metals. In this stage treat to tolerance, but conservatively when needed. In advanced cass with irreparable systemic damage treat to arrest, not to cure, lest we overdo the effort.

SUMMARY

This meager dicussion is presented with a thorough realization that many important points and diagnostic aids have been omitted. Some of these omissions were intentional due to the short time allotted, but other omissions were unintentional and due to the total ignorance of same on the part of the essayist, for no one person knows syphilis in its entirety. Osler's remark concerning the broadness of scope which syphilitic knowledge embraces is made more clear to one who attempts to present a general paper on such a large phase of the disease.

THE PUBLIC HEALTH ASPECTS OF SYPHILIS

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NEW ORLEANS

Syphilis as it affects public health is a matter of grave concern to the entire nation and to the world. It offers to the medical profession a problem, the seriousness of which has been recognized for many years. Fournier[1], in 1887, outlined the consequences of the disease as follows: "(1) Eventual incapacity to do work; (2) public expense for maintenance of public institutions to care for these people; (3) permanent incapacity; (4) spread of infection; (5) relation to marriage; (6) introduction of syphilis into the family circle; separation, divorce, and other associated evils; (7) contamination by wet nurse; (8) sterile marriages; (9) congenital syphilis; (10) mental."

Fundamentally these consequences as outlined by Fournier, were essentially the same as they are today.

J. Marion Sims[2], in his presidential address before the American Medical Association in 1876, looked upon the subject of syphilis as the great question of the day. I wish to quote a few of his statements to illustrate to you how well the question of syphilis was evaluated at that time.

(1) "It (syphilis), is one of public health, and as such we are bound to meet it.

(2) "The time has come when we can no longer shut our eyes to its evil, and we must deal with it precisely as we deal with other evils that affect the health of the people. It is our duty to enlighten the public upon all questions of public health.

(3) "Now what I propose in regard to syphilis is simply to give to the existing boards of health, in the various cities, the same powers over syphilis that they now possess over cholera, smallpox and yellow fever.

(4) "Thus you see that I would simply include syphilis in the great family of contagious or communicable diseases, and make it subject to the same laws and regulations that we already possess for their management."

And, finally, Sims urged that people be advised of the dangers of the disease, and that the medical profession call on the press, the pulpit, the women of the country, and the state and county medical societies for cooperation.

Thomas Parran[2], Surgeon General of the United States Public Health Service, quoted at length from Sims' address in his paper, "Control of Syphilis," which was presented before the meeting of the American Medical Association in June of this year. Parran brought to our attention in this paper the fact that it was 41 years before the profession and our governmental agencies heeded the advice of Sims and then only as a war time measure.

Now again, after several years, we are engaged in a great and well organized campaign which promises to make progress against the plague that has persisted despite the fact that we know the causative agent, how the disease is spread, how it may be prevented, how it may be treated, the end results of treated and untreated cases, and effect of the disease on the health and happiness of the nation. In the history of this country no other serious, disabling and fatal disease has withstood the attack of the medical profession, where we had as much information as we have concerning syphilis. I do not wish to imply that satisfactory and adequate management of cases from all angles has not been in force. On the contrary, excellent treatment has been carried out by many of the medical profession, and it is a tribute to their efficiency, that we have at hand the present knowledge of the disease. Many others, however, for various reasons have been unable to supply adequate diagnosis and treatment for their patients.

The competition by quacks and drugstores has prevented many patients from coming to the physician for treatment at a time when better results could be obtained. The fear of spinal puncture and repeated use of needles for injection has driven some patients from treatment. Some patients, because of lack of general public instructions, are under the impression that when a physician recommends the continuous treatment over a long period of time, he is merely making certain that he receives a weekly contribution. Such a patient not infrequently discontinues treatment from this competent practitioner but promptly gets into the hands of someone who guarantees a cure on a few injections of some drug. I fear that the man who has offered quick cures has profited much financially but has eventually placed great burdens on the profession, city and state.

THE EXTENT OF SYPHILIS

May I, at this point, review for you a few of the problems and data that syphilis has brought to our attention again and again: (1) Syphilis strikes one person out of ten; (2) 500,000 new cases of syphilis seek medical attention each year; (3) if a search is made for syphilis one hidden case is found for each one previously recognized; (4) it is estimated that 60,000 children are born each year with congenital syphilis; (5) 10 to 12 per cent of all deaths from heart disease are caused by syphilis; (6) the life expectancy is decreased on an average of 22 years in each case of cardiovascular syphilis; (7) 10 per cent of the admissions to state mental hospitals are for dementia paralytica; (8) in cases of syphilis untreated, or poorly treated, 30 per cent show spinal fluid changes, and 19 per cent have clinical symptoms of central nervous system syphilis; (9) 80 per cent of the cases of acquired syphilis may be cured during the first year of the infection; (10) only 30 per cent may be cured if treatment is started 3 to 20 years after infection; (11) syphilis is found in all walks of life; it is present in the isolated country home, village, town and city.

THE ILL EFFECTS OF SYPHILIS

I shall not attempt to go into any further details because we, as members of the medical profesion, are fully aware of the ravages of this disease. We see the cases almost daily and know the problem before us. We know only too well the effects and bitterness resulting from syphilis, particularly as it concerns the family and community. Some of these results might be mentioned briefly at this time as follows:

(1) The treatment is always prolonged and considerable expense is involved over this long period of time despite the fact that usually the

physician treats the patient at a very low cost. Then there is loss of time from work which varies considerably depending on whether or not treatment is readily available.

(2) To the physician there is a tremendous amount of time spent in treating cases for which he receives no remuneration and in addition he frequently purchases the drugs and stands all expense. This the physician has done without complaint. He has shouldered this burden which at times is too much to carry. In the larger cities, the indigent patients have been treated to some extent in clinics, but despite the clinics, much free treatment is carried on in the physician's private office.

(3) When the head of the family is disabled with cardiovascular syphilis, dementia paralytica and other serious complications, hardship to the family results. The family eventually becomes dependent on charity for food and shelter, and the patient himself requires hospitalization and prolonged treatment at public expense. The breaking up of the home, resulting in divorce, separation, improper care and guidance of the unfortunate children in the family, all with their inevitable end results, are of more significance to society than the cost in money. We can arrive at some estimate in any community as to the cost of treatment and all activities associated with the management of syphilis control, but we have not estimated the damage resulting to family life by such catastrophies.

(4) To the city therefore as well as the state and nation, there is a tremendous cost for hospital care alone, and for the upkeep of families of patients hospitalized. To this may be added the cost of maintaining clinics and additional funds for venereal disease control.

(5) Industry suffers unestimated losses due to accidents resulting primarily to untreated cases of syphilis. To add to the loss of a valuable employee there comes the question of compensation. In many cases, the defect due to syphilis may have been a factor in causing the accident. Serious errors and decisions by executives, who are not aware that central nervous system syphilis is destroying their judgment and ability to think clearly, may result in losses to industry.

(6) Since these conditions may be present in any walk of life we may expect the possibility of harm and loss to any organization employing an untreated case of syphilis. We see no harm in employment of a patient who is under adequate treatment and remains under periodic observation by his physician.

I might continue to give numerous illustrations of this type, but regardless of how much we may talk of these things, we eventually get back to the question—"What are we going to do to stamp out syphilis?"

The discussion of the question is one of great moment and requires much time. I can only give a brief outline here so you will have to be patient with me if I fail to mention many important points.

PROGRAM FOR CONTROL OF SYPHILIS

Parran[2] has outlined the basic principles which may be applied in a general way, and I shall give them to you briefly as follows: (1) In each city and state there should be a trained public health staff to deal with the problem of syphilis; (2) the reporting of cases, follow up of delinquent patients and the finding of contacts should be required by state laws; (3) health examinations, including serologic tests should be required before marriage; (4) diagnostic services should be available to every physician and should meet minimum state standards of performance; (5) treatment facilities should be available to all and should be of good quality; (6) in the cities, clinic service is a necessity and is best when associated with an already existing hospital dispensary. When hospitalization is necessary, beds should be available; (7) drugs for treatment of syphilis should be readily available to all physicians. These drugs are best distributed by the state; (8) serodiagnostic tests should become a routine procedure for every complete physical examination, for every hospital admission and most certainly for every pregnancy. The program of instruction for health officers and physicians should be carried out by utilizing trained consultants; (9) instruction of the public by every available method should be employed continuously and intensively; (10) having these working principles before us, we must then apply the program to meet the local needs.

It is obvious that there are many obstacles in the path of fulfilling this or any program but many of these obstacles can be pushed aside if the program is worked out with sustained determination, courage and effort. Some people are too willing to give up before starting on a program of this nature, but these are decidedly in the minority. The National Conference on Venereal Disease Control held in Washington, D. C., in December 1936, was a remarkable meeting because it demonstrated more clearly than ever the determination with which the program of venereal disease control is to proceed.

There must be a continuous program as for other health measures. Venereal disease control has always suffered because of lack of funds. If the public is properly advised, and the representatives of the people in the various units of government are properly advised, the time is not far off when adequate money will be forthcoming for venereal disease control work. Many of our states and cities have had regulations for this purpose of venereal disease control, but usually the lack of funds did not permit a sustained campaign. Times have changed, however, and steady progress is being made in many states and cities in the program of control of syphilis and other venereal diseases.

EDUCATION OF THE PUBLIC

The education of the public in all phases of the work is a most important factor. The information should be disseminated through the press, radio, movies, pamphlets, posters, and talks to laymen by doctors. Information given should be of such nature as to be readily understood by the layman, and should give him a common sense understanding of the whole subject. We must teach the public to avoid the quack who guarantees a quick cure, and the drug clerk who wants to treat them. Above all, they should be advised not to use self-treatment. We must teach them the necessity of early and prolonged treatment so that they may avoid the man who advises improper treatment. Parents should be advised to be more tolerant with the young son or daughter who has been so unfortunate as to contract syphilis. These children need a parent's love and care and should not be "kicked out" of the home, as so many have been. This boy or girl may lead a good life if properly cared for, but if not, he or she may become another reservoir of disease. The same applies to the employee. If an employee contracts syphilis, I hope that the employer will have mercy and allow the man to return to work as soon as the early period of infectiousness has passed. This man will most often be a better employee for the kindness shown him, and it will give him courage to face the future. We will find that this man can pay for his treatment and he will seek adequate treatment. If he is discharged we do not know what will become of him. It may change his entire view on life and make him a burden to the city and state.

Education of the public will bring more early cases of syphilis to you for treatment as well as bring to you the patient who had forgotten the infection he had many years ago. Education of the syphilitic patient can best be carried out in the physician's office and is most important as far as the continuance of treatment is concerned. I think the most important things, in managing a patient with syphilis, are encouragement, kindness, understanding and gentleness in treatment. A little extra time spent along these lines will pay great dividends in good results.

SUMMARY

I wish to stress that syphilis control is best approached through state and local health departments, cooperating with the voluntary agencies and the physicians in private practice. To be successful there must be an understanding by the physicians of all phases of syphilis. There shall be reporting of all cases to the health department, adequate diagnostic and treatment facilities, careful explanation and advice to the patient, follow-up work, determination of source of infection and examination of contacts, education of the public, more time spent on study of syphilis in medical schools and lastly, there must be adequate funds for maintenance of a syphilis control or venereal disease control unit in the health departments.

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PRESACRAL SYMPATHECTOMY*

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NEW ORLEANS

Since Gaston Cotte,[1] in 1925, introduced the operation of resection of the superior hypogastric plexus for dysmenorrhea, a wave of enthusiasm has arisen, both on the continent and in the United States, for this procedure. Its scope in recent years has been broadened to include cases of pelvic pain due to metastases of carcinoma of the uterus, to ulceration of the bladder, to bladder or rectal spasm, to vaginismus; and it has even been used in patients in whom there has been a persistence of pain despite corrected pelvic pathology.

ANATOMY

The presacral nerve is that segment of the abdominal sympathetic system which extends from the bifurcation of the aorta to the sacral promontory. As this area is prelumbar and not presacral, and since usually a plexus and not a nerve is encountered, the term superior hypogastric plexus, rather than presacral nerve, is more appropriate. The plexus is formed by the union of three roots: two lateral roots originating from the first and second lumbar ganglia on each side, and a middle root which is a continuation of the intermesenteric plexus. Thus formed, the nerve is joined by fibers from the third and fourth lumbar ganglia on each side, and after crossing the promontory of the sacrum, divides into the right and left branches. These nerves course along the posterior pelvic wall, supplying branches to the uterus and enter the lateral rectal space, terminating in the inferior mesenteric ganglia. Here, they are joined by the parasympathetics through the pelvic nerves (nervi erigentes) which are branches of the second, third, and fourth sacral nerves (Keene).[2]

Perhaps the best description of the superior hypogastric plexus, or so-called presacral nerve, is found in the work of Elaut.[3] His description is based upon fifty cadaveric dissections and cross sections, and all recent surgical descriptions are founded upon this work. Elaut, in his fifty dissections, found a distinct nerve in 24 per cent of his cases, parallel fibers in 16 per cent, a typical plexus in 58 per cent, and an arch-shaped plexus in 2 per cent.

The nerve is best located in the interiliac trigone. The base of this trigone is formed by a line joining both common iliac arteries at the level of the sacral promontory; its sides are formed by the common iliac arteries and its apex by the bifurcation of the aorta. It occupies the level of the lower portions of the fourth lumbar vertebra, the last intervertebral disc, and the body of the fifth lumbar vertebra. The base is approximately 7 cm. long, and the height of the triangle is roughly 6 cm. It may vary in accordance with the variance in the bifurcation of the aorta. A large part of the left half of this trigone is occupied by the left common iliac vein, which structure can be easily injured, especially if the sigmoid is attached further medially than normal. and if its mesentery contains much fat. The triangle is bisected by the middle sacral artery.

PHYSIOLOGY

A review of the physiology of the pelvic sympathetic and parasympathetic nerves shows diversity of opinion among investigators, but a crystallization of their thought leads to the following conception, namely, that the sympathetic fibers are vasoconstrictors of the blood vessels of the internal pelvic organs and that the parasympathetics have a reverse effect. The sympathetics have to do with the contractile fibers of the cervix and with inhibition of uterine muscle, whereas, the parasympathetics cause an emptying or detrusor action by stimulating the emptying mechanism of the uterus and relaxing the sphincteric action of the cervix. The sympathetic fibers to the bladder cause contraction of the internal sphincter and inhibit the emptying action of the bladder. Conversely, the parasympathetic fibers cause contraction of the muscles of the bladder and a relaxation of the internal sphincter. This is aptly explained by Flothow.[4] "If we cut the sympathetics, we relax the sphincter and give what detrusor action we have left full play." It is a moot question as to whether the sympathetics carry pain fibers.

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*Presented at the scientific meeting of the New Orleans Dispensary for Women and Children, March, 1938.

The ovaries do not receive any fibers from the superior hypogastric plexus, but obtain their sympathetic supply from fibers originating in the renal plexus and following the course of the ovarian arteries. Therefore, any operation performed upon the superior hypogastric plexus would have no effect upon the ovary, or upon symptoms arising from the ovary. Flothow injects the superior hypogastric plexus in some cases, and, in this manner, is able to determine whether an operation upon the superior hypogastric plexus will, or will not, produce relief of symptoms. His technic of injection is as follows.

FLOTHOW'S TECHNIC

A point 7 cm. out from the midline of the back, just above the brim of the pelvis, is taken. The needle is pointed downward just a little, inserted at an angle of 45°, and pushed downward until it hits the body of the vertebra. Then the angle is changed until the needle slides over the anterolateral border of the vertebra. At this point, the needle is advanced another centimeter, or a centimeter and a half, and at this time, will ride close to the superior hypogastric plexus. This is done on both sides. Ten to 15 c.c. of novocain are injected on each side and the whole area of the iliac trigone anesthetized. The patient should experience a warming of the feet, should the plexus be properly anesthetized. If, following injection, the feet get warmer and the patient experiences no relief, then it is not a case for operation. This means that the pain is either ovarian or psychogenic.

INDICATIONS

I have had no personal experience with the use of presacral sympathectomy for the relief of painful ulceration of the bladder, or for pelvic pain associated with bladder or rectal spasm, and can only state that cases reported in the literature show that this procedure is of great value in producing alleviation of symptoms in these types of pathology.

As regards pain due to pelvic malignancy, relief can be obtained if the metastasis is not too far spread laterally into the broad ligaments, and if ovarian involvement is minimal or nonexistent. Occasionally, metastatic involvement retroperitoneally in the prelumbar trigone makes resection impossible. Four or five years ago, I used this procedure, and witnessed its use by the late Dr. Jeff Miller, with good results. However, it was noted that after a period of a few months, as metastases became more pronounced, pain usually recurred. Of late, I have used alcoholic injection of the spinal canal for the control of pain due to carcinoma practically to the exclusion of presacral sympathectomy. It is simpler to perform, the morbidity and mortality are lower, and the degree of relief is more marked, which leads me to advocate the use of alcoholic injection rather than presacral resection in these types of cases. Occasionally, one will perform a laparotomy for the purpose of extirpating the uterus for carcinoma of the fundus, and find that the case is inoperable. Here, a presacral sympathectomy should be the procedure of choice, rather than a simple closure of the abdomen, as we know that pain will eventually appear.

Occasionally, gynecologists have used presacral sympathectomy where the pelvic pathology has been corrected, but the pain persisted. This is especially true in the young woman who has endometriosis where we are reluctant to remove both ovaries. Instead, the growths are destroyed by the actual cautery and a presacral sympathectomy performed. This latter procedure is used as a prophylactic measure against development of pain should the growths recur, and also, for the reason that marked dysmenorrhea is a prominent symptom in endometriosis. I have used this procedure in five patients, one four years ago, and they have been free of pain and dysmenorrhea since that time.

Presacral sympathectomy has been used most extensively in the treatment of primary dysmenorrhea, and I have no doubt that it has been employed too frequently for this condition. A survey of the literature shows that anywhere from 90 to 95 per cent of the patients were relieved of their dysmenorrhea by the use of presacral sympathectomy, a higher percentage of cures than by any other method. This, however, does not mean that it should be used to the exclusion of all other methods, or advised injudiciously. Primary dysmenorrhea may be due to one or a number of factors: poor hygiene, overwork, secondary anemia, endocrine imbalance, allergy, hypothyroidism, and stenosis of the internal os either congenital or acquired. A complete study of a case of primary dysmenorrhea will usually reveal the etiologic factors and treatment should be directed towards its cause. Only after medication and/or hormonal therapy have been tried with little or no success, should surgery be advised for the cure of primary dysmenorrhea, and certainly, if surgery is advised, dilatation and insertion of a stem pessary should be the procedure of choice, as this method in itself gives 60 per cent of cures. I cannot be too emphatic in stating that only when these methods, alone or in combination, fail, should the more radical type of treatment, namely, presacral sympathectomy be advised.

Presacral sympathectomy carries a mortality and morbidity rate that far outdistances any of the other types of therapy known for primary dysmenorrhea. Cotte,[5] who has performed the operation over 300 times, has a mortality of 2 per cent. Other authors report a higher percentage, showing that the operation is not without danger. Some cases have persistence of pain following operation, and when re-operated have been found to have small neuromata of the proximal end of the nerve fibers. Aside from this, other morbidity factors and figures have not been reported, but I am sure that they exist. Technically, the operation is not difficult in thin women with little or no retroperitoneal fat. However, in the stout individual with a mesocolon that is both fat and abnormally placed near the medial line, there is great danger of injury to the ureter, common iliac artery, left common iliac vein, middle sacral artery, inferior mesenteric artery, and perhaps the aorta. Only three weeks ago, I injured the left common iliac artery and vein while performing a sympathectomy in a stout individual. The amount of hemorrhage was enormous and could only be controlled by ligation of the left common iliac artery and vein. The patient survived the operation, but amputation of the lower third of the left leg was necessary because of interference with circulation and gangrene.

Reported cases of pregnancy following presacral sympathectomy show that there is no interference with the normal progress of labor. Some authors claim that the first stage is relatively painless, but in the second stage, no difference is noted in the intensity or frequency of the pain as compared to patients who have not had sympathectomy.

CONCLUSIONS

1. Presacral sympathectomy has a very definite and very valuable place in our therapeutic armamentarium.
2. It is efficacious in the relief of pain due to bladder or rectal spasm.
3. It has a definite value in the treatment of pain due to carcinoma or endometriosis of the pelvic organs.
4. It is most efficacious in the treatment of primary dysmenorrhea, but should be used only when other types of therapy, such as medical measures, hormones, or dilatation and stem pessary, fail to alleviate the condition.

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RECENT ADVANCES IN THE TREATMENT OF PNEUMONIA*

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NEW ORLEANS

Statistics reveal the appalling fact that pneumonia takes the lives of more than 100,000 people in this country each year. Until recently we have been forced to fight the disease with no reliable weapon or means of defense. Stimulation, efforts to control fever and cough and relieve pain and conserve strength have been our aim while anxiously awaiting the hoped-for crisis; in other words, depending on the patient's natural resistance to win the fight. A pneumococcal antitoxin serum was on the market for twenty-five or more years, but no consistently beneficial results followed its use and some years ago it was practically abandoned.

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 3, 1938, at New Orleans.

However, since about 1931 a remarkable advance has been made in our knowledge regarding the pneumococcus, and with it has come the development of a new serum treatment which has materially reduced the mortality from this dreaded disease. Unfortunately emphasis was at first placed on the fact that the specific antiserum I refer to was chiefly, in fact almost exclusively, beneficial in lobar pneumonia. This attitude was largely because the pneumococcus was shown to be the causative organism in practically every case of lobar pneumonia, whereas bronchopneumonia was thought to be only rarely caused by the pneumococcus. Further bacteriologic studies, however, have revealed the fact that probably one half of the bronchopneumonias are likewise associated with the pneumococcus.

Let me therefore be most emphatic at this point. Pneumonia is pneumonia—whether lobar, broncho, pleuro, postoperative or what not, and far more important than any question as to the kind of pneumonia should be the study of its bacteriology, for on this alone depends the method of treatment and the question of whether or not specific antiserum is indicated. Early diagnosis of every pneumonia is of monumental importance and every pneumonia sputum, whether lobar or broncho demands an immediate bacteriologic study. If the pneumococcus is found, the next and immediate step is the determination of its type. At present about 32 types of pneumococci are known and referred to as type I, type II, and so on, up to type XXXII. Serum is beneficial in the treatment of pneumonia due to some types; it is of no use in others. Serum for one type is not applicable to pneumonia due to another type. This again reveals the necessity for typing all pneumococcal sputum.

TYPING OF SPUTUM

Typing was formerly a difficult and prolonged laboratory procedure requiring injection of mice and several days' study; the result was valuable time lost. Now, thanks to the Neufeld technic, a rapid and, with a few exceptions, a comparatively easy method exists to determine the type of pneumococcus present in any pneumococcal pneumonia. Some physicians are equipped to examine sputum for types of pneumococcus in their office in conjunction with routine laboratory work. Having determined the type, the question of serum is for consideration. Beneficial results have been noted when homologous type specific sera have been injected in pneumonias due to pneumococci of Type I, II, V, VII, VIII and XIV.

Therefore, having discovered that the pneumonia is due to one of these types—the homologous antiserum should be administered at once. The subcutaneous and intramuscular routes have been abandoned and the intravenous route is essential. While intravenous injection is attended with slightly more risk, the danger is not great provided that certain precautions related to horse serum sensitivity have been previously taken. These consist of: first, careful inquiry regarding any history of hay fever or asthma, eczema or urticaria. That related to horse dander is especially significant; second, inquiry regarding any previous injection of horse serum at any time; thirdly, the performance of an eye test and intradermal skin test for sensitivity to horse serum. Patients having a history of hay fever, or asthma, or skin conditions due to horse dander should not be given serum. Patients showing a positive eye test or a strongly positive skin test should not be given serum. Those who have had horse serum injections during the preceding three months should not be injected.

TECHNIC OF ADMINISTERING SERUM

If the patient is applicable for serum, the procedure may be carried out. Instructions regarding serum administration are furnished by the makers, and can well be carried out as given especially as to whether or not the serum is to be diluted. Ordinarily the unconcentrated serum should be diluted with an equal amount of normal saline solution. Concentrated serum can be given undiluted.

Injections are usually made in one of the veins of the arm. When possible, blood for a blood culture should be collected at the time serum is being given, as future dosage of serum may be governed by whether or not a bacteriemia is present. The initial amount of serum injected should be about 2 c.c., injected warm and very slowly, not faster than 1 c.c. per minute. Two hours later the balance of the first vial may be given and full doses thereafter every two to six hours. It is important that large enough doses be given at frequent intervals until a clinical improvement is noted. Two years ago when I treated early cases I was hesitant about administering serum at short intervals. I am now sure that it is the proper procedure. Of course the necessity for additional serum depends on the clinical response. In type I and II cases, which comprise the majority of cases amenable to serum therapy, the total average dosage is about 70,000 to 100,000 units usually divided into four to six doses. Normally it was thought that serum was not efficacious when administered after the third day of illness, and in Boston and New York, where serum is dispensed free by the health authorities to those unable to buy it, it was withheld from those ill longer than this period. Further observations indicated that serum has at times still been beneficial when administered later in the disease. However it is essential that the recognition of the disease and type of pneumococcus be made at the very earliest possible time as serum is more beneficial the earlier it is given. Patients treated by serum therapy later in the disease require larger doses. Where extensive lung involvement is present larger doses are usually necessary and where the blood cultures show a bacteriemia exists the dosage often should be as much as 300,000 or more units. Within eight to 24 hours after serum there should be improvement. Fall of temperature, pulse and respiration and lessening of toxemia are the important developments to look for.

Certain important precautions are necessary to observe in giving serum intravenously. The most important is that the injection be given very slowly and only a small amount given at the first injection. If any serum reaction occurs adrenalin, a filled hypodermic of which should always be ready for use, should be given immediately. In anticipation of possible reactions, it is well to remain with the patient for an hour after the injection. Dyspnea, substernal oppression, anxiety, cyanosis, rapid and weak pulse are symptoms any of which require an immediate injection of adrenalin. While fatal reactions have been known to occur, they are extremely rare and have been usually in those in whom serum should not have been used because of sensitivity.

REACTIONS TO SERUM

It is not unusual to have a chill and high rise of fever coming on about one hour after the serum administration. This has occurred in about 25 per cent of my cases. This so-called thermal reaction is sometimes alarming but rarely serious and is treated like any other chill by application of warmth and later efforts to reduce the high fever that follows. I have several times seen rises of fever to 106° and once to 108°. Mild thermal reactions should not modify further treatment, but when severe ones occur the next injection of serum should be of materially reduced dosage and its administration postponed for about four hours after the reaction. A thermal reaction may occur after one injection and not after any others. The first or second injection is more likely to be followed by a thermal reaction than any of the others.

Skin reactions such as urticaria or other manifestations of serum sickness a few days to a few weeks after serum therapy may occur as in any other serum treated disease. They may be disregarded although they are not pleasant.

The results of serum treatment in properly typed cases of pneumococcal pneumonia have been universally recognized wherever the method is used. I do not think it has received the attention in this section that it should have received and this is the sole reason for my selection of this subject today; namely, to try to bring before the attention of the profession the great advantages of this mode of treatment over any other yet advocated. There are some reasons perhaps for the seeming attitude of lethargy on the part of the profession toward the use of serum, but I urge you most strongly to make use of it. Fear of serum reactions following intravenous administration has deterred some no doubt. Serum is expensive and that has no doubt influenced others, but when one considers the shorter period of illness, the more rapid convalescence, the saving of many days of medical attendance and nursing, perhaps the initial cost may seem great, but the final analysis might not always reveal greater expense than would finally have occurred. Certainly the lowering of mortality should make one willing to assume almost any expense in such a treacherous disease.

BACTERIOLOGIC DIAGNOSIS

One phase of this pneumonia subject is important I think to the country practitioner and that is the difficulties he may experience in obtaining a bacteriologic diagnosis, I mean the typing of his sputums if he is not equipped to do it himself. It is not necessary that sputum be fresh or collected in sterile containers, but one should be reasonably certain that it was coughed up from the lung. The typical rusty sputum is of course ideal. But it is necessary that it be taken to the laboratory for typing at the earliest possible moment. If the first report is negative for pneumococci of any type amenable to serum it is well to submit a second specimen of sputum for retyping. On some occasions I have seen the second specimen returned type specific when the first one was not. This has probably been due to the first sputum not having been coughed up from the lung tissues.

I believe it is of great importance that health authorities in this section inaugurate a program looking toward the control of the disease such as that in vogue in Massachusetts and New York from where the most favorable reports come regarding curative value of serum. In the larger cities where laboratory help is efficient and close at hand, the sputum examinations are readily and quickly obtained, but to the practitioner somewhat isolated, we should extend help. Efficient laboratory help close at hand is rather essential as early laboratory diagnosis is the keynote in treatment. Blood cultures are important in all cases, as they influence treatment and prognosis. Readily obtainable serum is also another important question to the country practitioner as the expense of stocking serum is not small, especially as it bears expiration date and quantities may be needed quickly.

Many such public health phases of this problem deserve the attention of our state health authorities if we are to reduce the terrific mortality from pneumonia.

SUMMARY

I would like to report the statistics gathered from records of Touro Infirmary for period from July 1, 1933 to January 1, 1938, four and one half years. Total cases of pneumonia 1019, deaths 322; a death rate of 31.6 per cent. Of these, 200 were said to be lobar pneumonia, with 52 deaths, a rate of 26 per cent; 819 were said to be bronchopneumonia with 270 deaths, a death rate of 32.9 per cent.

During the past three years from 1935 to the present, May 1, 1938, the sputum typed cases numbered 37. Of those not receiving serum 28.5 per cent died. Of those receiving serum 13.5 per cent died. While the number of cases was not great the reduction in mortality is significant and in accordance with that noted elsewhere in much larger groups.

DISCUSSION

Dr. Allan Eustis, (New Orleans): I want to say a few words in regard to the use of sera in children. I had an experience last winter when a grandchild of mine had pneumonia in New York. She had type XIV for which there is a serum and at once I wanted to give the serum. Dr. McIntosh and Dr. Howell of the Babies Hospital of the Medical Center advised against this. They had kept records on the use of serum in children, observing thousands of cases for there is more pneumonia in New York than down here, and they were opposed to giving serum to children under four years of age, as their resistance is greater to the disease than adults and they usually recover without serum. They said they had run thousands of cases in children in which they have given serum and thousands in which they have abstained from giving serum, and the mortality is just the same in both groups. They also said that in some cases they have had severe reactions and they hesitate to give serum to children under four years of age.

One other point, which has nothing to do with serum, but is also something which occurred in my family to my son, and that is the work of Blake of New Haven in the early collapse of the lung with air. My son had temperature of 106°, respiration 52, and pulse 130. Dr. Jamison injected 500 c.c. of air into the pleural cavity—he had pleurisy—and the respiration dropped after five minutes to 28 and the pulse to 100, and he was relieved of his pain at once. In ten hours, Dr. Jamison gave another 500 c.c. to keep the lung from irritating the pleura.

We were not able to get sputum to type at first, but as soon as the lung collapsed, he had profuse expectoration, and we typed the sputum, gave the serum, and had spectacular results.

Dr. A. A. Herold, (Shreveport): Dr. Eshleman dealt with the serum treatment which is not to be denied in the cases which are appropriate. I would like to ask what he thinks of the sulfanilamide treatment of pneumonia. I have seen brilliant results with sulfanilamide. I have had patients, who had clinical pneumonia, but without sputum, in whom we have used sulfanilamide therapy, starting with 80 grains a day, and in four days they were completely well. I did not recheck with the roentgen ray, but they had recovered so far as clinical signs, temperature, pulse and respiration were concerned. I have seen results in these cases in which we could not get sputum to type, and in cases of a type to which serum is not applicable. Of course, I have seen beautiful results with Type I and II serum, but often it is difficult to obtain sera of other types at the moment when you need it.

Dr. Randolph Lyons (New Orleans): Of course, Dr. Eshleman did not mean that we were to overlook other measures in the treatment of pneumonia; he simply brought out the specificity of the serum treatment. We appreciate that in this section of the country there are a good many non-specific types of pneumonias and that bronchopneumonia is often not type-specific. In those cases we have to use all the measures we are familiar with. When there is a great deal of pain, pleurisy, as in the case Dr. Eustis mentioned, pneumothorax may be indicated. It is very doubtful if it will ever come into general use. It worked extremely well in relief of pain, but pneumothorax is not applicable to all cases by any means. We have to bear in mind the use of oxygen and other measures.

I have not been successful with the use of prontosil and sulfanilamide in pneumonia except in cases which were due to streptococcus infection. It is well to remember that in very large doses it is a dangerous drug.

It all boils down to the same old fact that we are dealing with an acute, dangerous disease. If we find the type and we have a specific serum, then serum is the thing to use. If we cannot find any specific type, we have to fall back on good nursing and other methods we used in the past.

I would suggest that those of you not familiar with serum treatment get the little book put out by the Commonwealth Fund on the serum treatment of pneumonia. There was a new edition in 1938, and it is only about 98 pages at the most and takes about an hour and a half to read. To my mind, it is the most valuable book on the subject on the market at the present time.

Dr. Rena Crawford (New Orleans): I should like to ask Dr. Eshleman what treatment he gave to the asthmatic, what preparation he made before administering treatment to asthmatic cases?

Dr. Eustis spoke of serum not being proved useful with children. The difficulty of getting sputum to type is a great one with children.

Dr. Charles L. Eshleman (In conclusion): In reply to Dr. Eustis——the intravenous administration of serum to small children is very much more difficult than to adults. I do not treat many children, but I do not see why the effects of serum should be less helpful to them. I know that the general mortality from pneumonia of specific types has been very materially reduced by serum treatment in New York in the past few years. I do not know how long ago Dr. Eustis' boy was ill. Perhaps the New York physicians do not feel that way now. I have had no experience with pneumothorax in pneumonia.

In replying to Dr. Lyons—I concur in recommending the book referred to by Dr. Lyons published by the Commonwealth Fund. It is largely a report of the treatment of pneumonia by serum in Boston and New York and explains the technic and gives statistics of results, as to the use of serum in bronchopneumonia as well as lobar pneumonia. While bronchopneumonia is far more common in children, I want to stress again that it is not a question of whether the patient is a child or an adult, or whether it is bronchopneumonia or lobar penumonia, it is a question of the organism present, the type of pneumococcus.

Dr. Herold asked about the use of sulfanilamide in pneumonia. Our chairman, Dr. deGravelles, in his address, referred to the indiscriminate use of new drugs. I have not given a single dose of sulfanilamide to any of my patients. However, I have permitted my house officer and interne at Touro to give it to a few patients. I have not seen any beneficial results from it in large doses—100 grains daily—in any of the pneumonia patients. I have seen a good deal of cyanotic discoloration produced and it is difficult to tell whether this is true cyanosis due to pneumonia or sulfhemaglobinemia due to the drug. I do not like it in pneumonia from what I have seen.

Answering Dr. Crawford's question about the little girl with asthma who was given serum. She had been under Dr. Efron's care and her asthma was due to sensitivity to house dust. However, we made careful eye and skin tests with the serum and she was not sensitive to serum. A very small dose of serum was given first without any reaction, then we gave the larger doses and without any serum reaction.

CONSERVATIVE OBSTETRICS AND LOWERED MORBIDITY*

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A consideration of the fact that puerperal death is a matter of public knowledge and that there is a universal demand that this death weapon of womanhood be controlled led one of us (W. F. G.) to organize the Monroe Maternity Welfare Clinic where those mothers who needed the proper obstetric care and were unfortunate for various reasons could obtain such. Mays has clearly shown that the maternal mortality rate in Louisiana is a blot to the medical profession. True, many reasons can be given for this for which we as physicians are not to blame; however, the public is looking to the medical profession for a remedy for this situation.

Through the sponsorship of the Catholic Daughters of America and the Maternal and Child Welfare Division of the Louisiana State Board of Health, with the approval of the Ouachita Parish Medical Society, the Monroe Maternity Welfare Clinic has been in existence one year. This clinic furnishes ante- and postnatal care for the rural districts of Ouachita Parish, with a complete delivery service for the cities of Monroe and West Monroe, Louisiana.

In 1935 there were 1035 births in Ouachita Parish with 980 live births, 55 stillbirths and eight maternal deaths, giving a maternal mortality of 8.1 per 1000. In 1936 there were 1112 births with 1045 live births, 67 stillbirths and nine maternal deaths, giving a maternal mortality of 8.6 per 1000. Most of these deaths resulted from the lack of antenatal care and midwifery. It is a review of our results which we wish to present in an effort to show how such a service can be a most effective method in correcting the above mortality.

Since it is almost impossible to furnish hospital delivery service to all patients it behooves us to approach that service in the home as near as possible. This, we believe, can be done when a good standardized procedure for home delivery is followed after the proper antenatal care has been given.

It has been a problem, still is, and will be for some time to come to secure the wholehearted cooperation of expectant mothers. However, by persistent education and the word of mouth passage of the proper care they should expect, we believe that in less than five years every mother will demand good obstetric care, and, as members of the medical profession, we should strive to supply this demand to the best of our ability. As an example of the increased demand for proper care by mothers we wish to state that 65 per cent of our patients had never consulted a physician for care prior to their application for care at our clinic. In nearly all multiparas there was a history of delivery by midwife or hurried delivery by some kind physician at the time of labor without the patient in either instance ever having any antenatal care.

PRELIMINARY HISTORY

At the first visit to the clinic, and we are attempting to encourage patients to report for care as soon as they know they are pregnant, we carry out a thorough and complete examination. This demands considerable time, but we find it pays for itself. First, we obtain a very careful history which includes detailed menstrual and obstetric histories. Special emphasis is placed on these as often some previous abnormality might be determined. A thorough past and family history are elicited. We have developed the habit of spending many minutes on a Review of the Systems as we have often uncovered some very fruitful information from this.

THE EXAMINATION

As complete a physical examination as possible is made after the patient is accepted by the clinic. This includes head, neck, chest, abdomen, genitalia, rectal, extremities, and neurologic. Our facilities at present limit some of the laboratory work we would like to have, but in patients whom we feel need it we have arranged to secure it. If any abnormalities of the teeth, eyes, ears, nose and throat are found to be present the patient is urged to have these corrected at once. Especially do we stress that dentition be as near perfect as possible. On all cases with albuminuria or hypertension eye grounds are checked. Special attention is given to the mother on the proper care of the breast, as Smith[7] has clearly shown the value of this in preventing complications later. Heart cases are checked frequently and medical consultation secured for severe cases. We feel that the pelvis deserves special attention regardless of multipara or primipara. Routine external pelvimetry is done on all patients but we do not rely entirely on it. Careful attention is paid to the measurement of the transverse diameter of the outlet and the external conjuate. We then perform a careful, painstaking vaginal examination during which we palpate the subpubic angle, the sacrosciatic notch and the curvature of the sacrum. An estimation of the size of the soft parts is also determined. If one will familiarize himself with the work of Caldwell, Moloy[20] and others, the value of such time spent will be seen. At eight months we repeat all our examinations, and in all cases of doubt, where possible, we have Ball pelvicephalograms performed. Routine Wassermanns and urinalyses are made on all cases at once. Blood chemistrys are made on all patients with hypertension and albuminuria.

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society, May 4, 1938 at New Orleans.

†From Monroe Maternity Welfare Clinic.

INSTRUCTIONS TO PATIENT

After this is completed an informal discussion is had with the patient. In this discussion we pay particular attention to diet, exercise, and personal hygiene. These we feel should be thoroughly and completely discussed with the patient. Hull[9] has shown that faulty diets are responsible for a large series of postpartal heart failures and there are still many who believe poorly planned diets in pregnancy are a precursor to pre-eclampsia. For these reasons we place all patients on a high vitamin diet, especially vitamin B. An attempt is made to relieve the patient's mental anxiety after such an examination. If we feel no trouble will be experienced this is confided to them, at the same time explaining the necessity of their returning on the dates we specify to them so that any unforeseen difficulties might be cared for. However, if some trouble is anticipated we guardedly appraise them of this fact and consult their husbands so that some arrangement for hospital delivery can be made. This latter procedure has been invaluable to us as quite often the husband will see that our orders are strictly adhered to, whereas otherwise they might be neglected.

Each patient is instructed that she will be expected to attend clinic every three or four weeks for the first seven months, every two weeks for the eighth month and every week for the last month. Patients are encouraged to make memorandums, and questions by them at each visit are carefully answered. Routine blood pressure, weight, and urinalysis are performed on each visit to the clinic. At eight months a check of fetal position by bimanual palpation is done along with a recheck of F. H. T. and pelvimetry. If at this time we feel that hospitalization is necessary we do not hesitate to advise it and give the patient our definite reasons for desiring it.

HOME ARRANGEMENTS

Before going on to describe our procedure in home deliveries we wish to pause and make known the role of the maternity nurse. By arrangement with the Maternal Welfare Division of the Louisiana State Board of Health we have a full time, trained maternity nurse on duty at all times. She is assisted by the nurses from the local Public Health Office. At the time the patient enters our clinic these nurses instruct them in all the necessary articles needed for home deliveries. A home visit is made at various intervals to select the proper room and arrangement of furniture so that no confusion will occur at the time of delivery. At the seventh month the patient's supplies are checked, bundled and placed where they can be easily obtained. Thus one of the greatest obstacles in home deliveries is corrected.

The facts of asepsis have been established and despite frequent denials that this is impossible in the home the essayists beg to disagree. King reported 1373 cases were cared for with a maternal mortality of five patients and a fetal mortality of 21 cases from the Hutchinson Memorial Out Patient Clinic. Though our figures are dwarfed by these we find that they bear out the fact that properly carried out home deliveries are safe and can be performed with a low morbidity.

At our disposal are fully equipped bags which contain sterile linens, gloves, instruments, sutures, catheters and syringes. Ether is carried and used by the open mask method. All necessary drugs are carried which could possibly be needed. A large beacon searchlight is carried to provide proper lighting facilities when needed. Thus in these bags are maintained practically a sterile hospital unit.

THE DELIVERY

At the time of delivery the patient is given a cleansing enema, shaved and washed with soap and water. This is followed by sponging with a 4 per cent solution of lysol. After this all efforts are made to make the patient comfortable. We have used sodium pentobarbital and seconal with fair success as basal anesthetics.

On first arrival, if the observation shows the patient to be in hard labor, a rectal examination is made following exactly the same procedure used in any good hospital. The patient is then left alone unless we feel she has not made proper progress in a period of time. Promiscuous rupture of membranes and use of pituitrin prior to delivery are absolutely forbidden except in well defined cases and these have been few.

When the outlet is seen to bulge sufficiently and the presenting part appears the patient is draped with sterile linens and the perineum cleansed with lysol solution. We do no ironing out of the perineum nor do we continuously keep a hand in the outlet. Under light ether anesthesia the presenting part is delivered between pains. Immediately following this we sever the cord and cleanse the infant's upper respiratory tract. Inspection for lacerations is then done and if any are present they are promptly repaired. No effort is made to express the placenta for we have found by being nature's assistant we have little postpartal bleeding and no retained secundines. After delivery of the placenta we give immediately 1 c.c. of pituitrin. We carry packs and other necessary equipment always in easy reach in anticipation of postpartal hemorrhage. Fifteen minutes later we begin ergoklonin, 0.5 drams, by mouth and thence once every three hours for four doses to retain uterine contraction. After the patient has again been made comfortable in bed a check of her condition is made by taking blood pressure, pulse, height of uterine fundus and flow.

POSTNATAL CARE

We have made it a habit to see that as much importance is attached to postnatal care as antenatal. Frequent periodic visits are made by the nurse. Routine orders for diet, exercise, care of breast, and elimination are given. Any fever is immediately checked and an attempt made to locate the cause. All patients are required to remain in bed for 10 to 12 days if postnatal care has been uneventful, otherwise each patient is individualized as to her particular need.

At the end of the postnatal period we request all patients to report to the Clinic for a thorough examination. Any treatment such as cervical cauterization is then done. We follow all patients with hypertension and nephritis by having them return at frequent intervals for a check of their condition.

RESULTS

Thus, by following the above outlined procedures, none of which are new, we have the following results to show for our first year's efforts: In Table 1, it is seen that a total of 136 patients were admitted for care. Of this number 67 were white and 72 colored. There were 80 home deliveries of which 31 were white and 49 colored. A total of 21 patients were referred to hospitals for delivery because of some abnormality. Of these 17 were white and four colored. Antenatal care and examination was given to 16 white and 19 colored patients who arranged for delivery either through physicians or hospitals.

TABLE I
TOTAL CASES FROM MARCH 15, 1937 THROUGH APRIL 15, 1937

	White	Colored	Total
Home deliveries	31	49	80
Hospital deliveries	17	4	21
Examinations	16	19	35
	—	—	—
Total	64	72	136

Table 2 shows a total of 39 primiparas and 97 multiparas with about an even distribution between white and colored.

TABLE 2
PARITY OF CASES

	White	Colored	Total
Primipara	20	19	39
Multipara	46	51	97
Total	66	70	136

Table 3 provides a list of complications encountered during the antenatal period. As can be seen there were 18 cases of syphilis, an incidence of 13 per cent, with a colored incidence of 15.6 per cent; six cases of pre-eclampsia; five cases of hypertension, and one case of nephritis were found. The patients with hypertension and nephritis all had previous histories of such and were present in early pregnancy, whereas, the pre-eclampsias occurred primarily in primiparas, there being no multiparas in that group. The most frequent complication was borderline pelvis of which six had Ball pelvicephalograms for confirmation. A report of these will be presented later.[17] Included in this group were all cases with a diagonal conjugate of 11.5 cm. or less and a transverse of outlet of 8 cm. or less. Five cases of heart disease are noted of which two were white multiparas with rheumatic heart disease, and three colored (two primiparas, one multipara) with syphilitic heart disease. All had uneventful, uncomplicated labors.

TABLE 3
PRENATAL COMPLICATIONS

	White	Colored	Total
Borderline pelvis	9	10	19
Syphilis	1	17	18
Cardiac	2	3	5
Pre-eclampsia	5	1	6
Nephritis	0	1	1
Pyelitis	2	0	2
Hypertension	2	3	5
Malaria	1	0	1
Infantile paralysis	1	0	1
Varicosities	2	0	2
Uterine fibroid	0	1	1
G. C. arthritis	0	1	1

Table 4 shows the intrapartal complications. There was only one case of mid-forceps but on several occasions low outlet forceps were used. Placenta previa (marginal) occurred once and delivered without any difficulty. One case of eclampsia occurred in a white primipara and under conservative treatment recovered with delivery of a live baby. A total of five frank breech presentations occurred, three being white multiparas, one colored primipara and one colored multipara, giving an incidence of 3.8. Lacerations are shown and all occurred in primiparas who had good results on their return for postpartal examination. One case of twins occurred in a white multipara with rheumatic heart disease who had an uneventful labor after being compensated during the antenatal period. One incidence of postpartal bleeding occurred in a colored multipara which was checked by the use of pituitrin and vaginal packs.

TABLE 4
INTRAPARTAL COMPLICATIONS

	White	Colored	Total
Forceps	1	0	1
Placenta previa	0	1	1
Eclampsia	1	0	1
Breech	3	2	5
Lacerations, first degree	0	1	
Second degree	3	0	4
Twins	1	0	1
Uterine inertia	1	0	1
Postpartal hemorrhage	0	1	1

In the postpartum two colored primiparas developed mastitis which cleared up in two or three days with conservative care. This low incidence of breast complications we believe is due to teaching proper care of the breasts to our patients both during antenatal and postpartal periods. It is noted we have listed eight cases of colored primiparas who at postpartal examination showed a marked hypertension whereas there had been none during the antenatal period. Since Meyer's[12] publication we have found five more cases, all colored. We are seeing these patients once every six weeks and will give a report on them later. One case of postpartal malaria was encountered.

TABLE 5
POSTPARTAL COMPLICATIONS

	White	Colored	Total
Mastitis	0	2	2
Pyelitis	1	0	1
Postpartal hypertension	0	8	8
Malaria	1	1	2

We follow the rule of temperature 100.4° for any two or more days in classifying morbidity. In only two patients in our series was this present and these had normal temperature by the fourth postpartal day. This is an incidence of 2 per cent. Grier[5] recently presented 4837 cases from the Evanston Hospital with a morbidity of 3.8 per cent in spontaneous deliveries and 6.5 per cent including operative deliveries. He states definitely that any form of operative delivery increases morbidity and that conservative obstetrics with minimal interference and then only when indicated will produce a low morbidity and hence a low mortality rate. Our conservative methods have borne this out and we attribute our low morbidity to this.

FETAL MORTALITY

Table 6 gives a complete description of our fetal mortality. There were 102 births with three deaths, giving an incidence of 2.9 per cent. We feel that only one of these patients should have been lost and that was the breech with congenital heart disease and enlarged thymus. One baby was stillborn after mid-forceps and the mother had been hospitalized because of a borderline pelvis. The third fetal death was due to ignorance on the part of the patient's family for not calling when labor began. All patients are strongly advised to do so by us and she was especially urged to do so since an antenatal diagnosis of breech was made.

TABLE 6
FETAL STATISTICS—MORTALITY

Case 88	Colored, aged 20, para 2, gravida 3. Frank breech delivered after 3 hour labor. Baby resuscitated after one-half hour. Expired 24 hours later from congenital heart disease and enlarged thymus.
Case 80	White, aged 20, para 0, gravida 1. Borderline pelvis, hospitalized for delivery. Long labor; midforceps. Stillborn infant.
Case 133	White, aged 24, para 2, gravida 3. In labor with ruptured membranes 36 hours before calling for physician. On arrival stillborn precipitate. Possible intracranial hemorrhage.

Fetal Births	102
Living	99
Dead	3
Mortality per cent	2.9

SYPHILIS

Table 7 gives a detailed description of the cases of syphilis. One white and 13 colored patients received treatment in varying amounts depending on the stage of pregnancy and tolerance. Four colored patients in the examination group were not treated because of their failure to report for therapy. We demand that all cases of syphilis receive therapy or refuse to carry them in the clinic. Such therapy is given by one of us to all cases. It is to be noted that cord Wassermanns are made on all cases at delivery. We do not feel that a negative cord Wassermann means that there is no further need for observation but recommend that these be repeated in six months. Those cases with positive cord Wassermanns are advised as to therapy at once. We do not allow any syphilitic mother to nurse her child regardless of the mother's Wassermann at the time of partuition. We feel that by energetic therapy we have thus prevented stillbirths in this group as all infants were healthy and at our last resume were in good health.

TABLE 7
RECORD OF SYPHILITIC CASES

Colored—treated	13
Colored—not treated	4
White—treated	1
Colored—Cord Wassermann	
Negative	10
Positive	3
White—Cord Wassermann	
Negative	1
All treated—living	

CONCLUSIONS

It is clearly seen that such a service as this with the results obtained can do much toward combating maternal mortality. Though yet a young service we believe that it has justified our purpose as we feel that it is the duty of organized medicine to remedy any causes which may be responsible for our maternal plight.

We wish to express our appreciation to Drs. L. L. Shlenker, G. D. Williams, C. B. Flinn, M. W. Hunter; and to B. L. Woodville, F. Spriggs, A. Barr, A. Humphries, A. Rogers, R. Marchese, A. Tarver and J. Shearman, R. N.'s, for their aid in this service.

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DISCUSSION

Dr. E. L. Zander (New Orleans): I think this paper is of extreme interest to all of us who are vitally interested in low mortality rates. I believe, very firmly, that proper antenatal and intranatal care will lower the mortality rate considerably. Antenatal care will avoid complications which we sometimes get during delivery. By prenatal work we may, by proper handling of cases, avoid operative interference, which is sometimes unnecessary. By proper postpartal care, we may avoid some of our postpartal complications. In the city of New Orleans in 1937 there were 9500 deliveries and 87 deaths. The Child Welfare had 1041 deliveries with ten deaths. These figures compare with the report given in the paper just presented.

An analysis made of ruptured uteruses in the Charity Hospital in New Orleans showed that there were 37 ruptured uteruses that occurred in 23-year period. These cases occurred primarily as the result of bad obstetrics. Most of them were the result of bad operative obstetrics. I believe definitely, that the proper care of these cases will avoid such complications.

One thing I would like to stress is that at Charity Hospital we are in the habit of making roentgen rays on all primiparas. Drs. Guerriero and Gray mentioned the fact that they roentgen ray in cases where they expect difficulty. We have made it a practice to make routine roentgen rays on primiparas.

As has been mentioned, some difficulty is caused by the apparatus used to obtain measurements.

This paper brought out several things to me. The first was the conservatism in most of the essayists' work. For instance in 136 cases, I believe they had only one forceps delivery and although they used low forceps quite a few times, this does not mean that there were abnormalities but that this procedure was followed in order to facilitate delivery.

I did welfare work for a considerable time and believe that home delivery, with proper care, can be done without necessarily having infection.

In regard to the syphilis cases reported, there were 70 colored cases reported in the 136 recorded, which accounts, in my opinion, for the high amount of syphilis found. Whenever there are colored cases, you are bound to have a lot of syphilis.

Dr. Joseph W. Reddoch (New Orleans): There is one point that I would like to emphasize and that is something which gives most of us a great deal of trouble when it comes to evaluating the possibility of normal or operative delivery, namely, the question of pelvic measurements. I believe that the majority of us have a tendency to rely too much upon the measurements as we get them with the pelvimeter. I think there is a lot to be done in evaluating the possibility of delivery by giving the patient a chance, not a test of labor, but giving her a trial for a few hours and watching the progress of the head.

I would like also to add, that there is a general tendency, among interns particularly to a desire to terminate a labor with forceps as soon as the cervix is completely dilated and the patient is having fair pains but not making as much progress as she might have made. I have repeatedly seen patients on the white and colored services at Charity Hospital in whom pains were fair but no effort at all was made to let the patient help herself. These should be helped by encouraging them to use their pains, and not always delivered with forceps.

Another point which will help to lower maternal morbidity and fetal morbidity and perhaps maternal mortality is the question of adequate fluids. Proper nutrition in the first stage and to a certain degree in the second stage will accomplish a great deal in cases with long labors, supplementing what is taken by mouth with intravenous infusions, making sure that the patient receives a total of about 3000 c.c. of fluids in the course of each twenty-four hours.

Dr. E. Perry Thomas (New Orleans): Dr. Guerriero and Dr. Gray mentioned one point which I think should be of interest to all physicians. That point is the fact that 65 per cent of the women who were seen had had no prenatal care in former pregnancies. The United States Bulletin of Maternal Mortality, in thirteen states, revealed the fact that of the total deliveries occurring in those states, only 50 per cent had ever been examined by a physician or seen prior to delivery. Only 20 per cent had received prenatal care, classified as accurate, and one per cent had received prenatal care measured to high standards. Dr. Fred Adair, who is probably more concerned with prenatal care and more interested than any other one physician in the country, has investigated the possibility of improvement in maternal mortality as well as infant mortality, which prenatal care can cause.

A large percentage of deaths is due to syphilis. These preventable deaths, shown by statistics, are due to causes which most probably can be eliminated. By using the best methods, birth trauma may be eliminated.

The authors of this paper have rendered a valuable service to their community and deserve praise from the citizens of Monroe.

Dr. Harry Meyer (New Orleans): Having done obstetrical work for the Child Welfare Association for the last three and a half years, I am particularly interested in this report. The conservative management of obstetrics which of necessity must be done in the home is the big factor in lowering morbidity and mortality rates.

I would like to reemphasize pelvic measurements. We in our clinics here have more or less given up external measurements, which are of practically no value due to the interference of many elements which make our results erroneous. Internal measurements, on the other hand, are of great importance, but even more important is the presence of feto-maternal proportion or disproportion which can only be determined by examination when the patient is first seen, again at eight months, and possibly again at the onset of labor. Only by this method are we best able to tell whether that particular baby can be delivered through that particular pelvis.

I would like to explain what is called the absent form of treatment in home obstetrics, which can be used to great advantage. Our routine here is that when the patient goes into labor, the nurse is called. She prepares the patient and checks the condition of mother and baby and then reports to the physician. If labor is progressing normally, the physician need not visit the patient at that time. It only becomes necessary to see the patient when delivery is imminent or some abnormality arises. This so-called absent form of treatment accomplishes several things. First, it avoids unnecessary vaginal examination which we are prone to do if we are waiting for the patient to deliver. Second, it avoids the giving of sedatives injudiciously. Third, it avoids the constant nagging by the family to do something to help the patient out of her misery. It is necessary, of course, in carrying out such a program to employ nurses trained in the art of obstetrics.

The terminating of the second stage of labor with low forceps is the accepted procedure in hospitals, but if we are delivering patients at home spontaneous delivery should occur and does occur if the patient is given sufficient time. By this method we are able to lower to a great degree maternal and fetal mortality and morbidity.

Dr. C. Gordon Johnson (New Orleans): An important point that has not been stressed very much, which I think is very important for home delivery, is the matter of whether a vaginal or rectal examination is done. I had the good fortune of spending time at the Chicago Maternity Center, which was begun under the direct supervision of Dr. Joseph DeLee, and a report from that clinic, of three years' work with approximately 6000 cases reported, showed a maternal mortality of six patients out of the 6000 cases. All of the patients are delivered in the home and in a great majority the patients have not been seen at the clinic prior to the time that a call is sent in for some one to come out and deliver. I believe that this lowered mortality and low morbidity as well, is due to the fact that no vaginal examination is done unless the patient is prepared for delivery. By that I mean that no vaginal examination is done in the bed. If the patient is to be examined vaginally, she is placed on a table and prepared just as though she were in the operating room. Rectal examinations are the only ones done and I would like to ask Dr. Guerriero and Dr. Gray just what technic they follow so far as the vaginal and rectal examinations are concerned.

Dr. R. B. Wallace (Alexandria): Certainly the purpose of this paper is to prevent mortality in the mother and child. It does not seem that all the mortality is produced after the patient gets to the doctor. The mortality is also imminent before the prospective mother ever arrives. In rural districts people do not seem to know that they should consult a physician before the pain begins. I believe we have a duty there.

In some other countries, for instance Denmark and Japan, a mortality of two or three per cent has been maintained. We have maintained a mortality of six or seven per cent. There certainly must be a reason for this. One reason is the lack of care. I can recall three instances where the mother and the child died. The doctor was called when the patients, in all three instances, were in convulsions and they had not previously consulted a doctor. A lot of them do not know that they should do that. I believe that it is the duty of the Society directly and indirectly to have people informed. This Section could appoint a committee to draw up a pamphlet that may be given to every couple when they apply for a marriage certificate. It would be instructive to them, outlining all the things that prospective fathers and mothers should know and I believe that both maternal and infant mortality would be reduced.

Dr. W. F. Guerriero (In conclusion): In answer to Dr. Johnson's question, I would like to say we have been following practically the same technic as outlined by DeLee at the Chicago Lying-In Hospital.

We perform no vaginal examination until the patient is ready for delivery except in those patients who show some indication. We have followed this, because by proper abdominal examination during the prenatal period we feel that we have learned whether any abnormalities are present. We carry a complete sterile bag as is used in the Child Welfare Department in New Orleans. We believe our lowered morbidity is due, as previously stated, to our non-interference during delivery.

Regarding Dr. Meyer's discussion, I would like to state our procedure is this: The patient is informed to call us when labor begins. The nurse and one of us answers this call, and a general check of the patient is made other than a vaginal examination. The nurse is allowed to remain until the patient has progressed well into the second stage of labor, at which time we again return and remain with the nurse until delivery occurs.

IMMUNOTRANSFUSION IN OTOLOGY*

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The use of blood transfusions in the treatment of septicemia of otitic origin, as well as from some other cause, has generally been accepted. There is a stimulation and response that cannot be denied as well as a steadying and slowing of the pulse with drop in temperature that denotes a benefit to the resistance and responsive powers of the patient.

Sera and chemotherapy have been used with varying degrees of success. Mercurochrome, acriflavine, Pregl's iodine and at present, sulfanilamide, and others have been used at various times and with favorable reports in some cases. But where one is dealing with a hemolytic and blood destroying type of infection, then that type should be treated with the replacement of blood and the other measures used as an aid against the infection, unless there is a specific drug or sera for that type.

Stephenson used a non-specific transfusion in a case of hemolytic streptococcic septicemia with recovery. This was a contribution of great worth, principally because of its availability without waiting for results of blood cultures, the making of vaccines and the specific immunization of donors. Non-specific immunotransfusion therapy is based on the principle of increasing the formation of non-specific antibodies or opsonins in the blood of the donor. It is possible to inoculate blood in vivo with non-specific bacterial agents and this blood, six to eight hours later, has certain curative effects in many types of infection. This is done by intravenous injection of 1/10 c.c. stock typhoid vaccine containing fifty million killed organisms. There is a reaction one-half hour later, producing temperature of 100 to 104°, chills, nausea and vomiting, which subsides in about two hours and in six to eight hours later the white count is 15-20,000, at which time the transfusion is given. Specific transfusion is of greater value than the non-specific, but has the disadvantage of taking from four to five weeks and requires a competent bacteriologist and a well equipped laboratory.

One can see that these procedures take some period of time and if there is to be success one must act quickly and as soon as possible in order to get the desired results for frequently, in septicemia from acute conditions there is little enough time to do anything. Even so, the treatment of septicemia is attended with great difficulties. The most important and the first thing to consider is adequate surgical drainage of the foci of infection if possible, for without this the benefit of the immunotransfusion or of any form of treatment is only transitory.

In considering this method and its use as well as the determination of the condition of the patient prior to and after treatment, let us consider the causative factors first. Disease is produced by the ability of an organism to invade the body and by its capacity to produce toxins. These are separate qualities and require separate antibodies for their neutralization. The prevention of the invading power and the multiplication of the organisms in the tissue and blood is by phagocytosis and digestion. The organism is only able to produce and spread if the body does not have enough antibacterial antibody in the serum. The toxic element is destroyed by the use of antitoxin plus restraining the growth of the organism.

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*Presented before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 3, 1938, at New Orleans.

Each condition has its own manifestations. The septic element is denoted by local cellulitis or abscess, lymphangitis, picket fence temperature, chills and positive blood culture. The toxic element is denoted by cutaneous erythema, sustained elevation of temperature and rapid pulse. Frequently there is a combination of these elements at work at the same time.

It has been shown that one part of serum to eight parts of blood will give enough antibody to resist invasion. The scarlet fever and erysipelas antitoxins combat the toxic manifestations.

TECHNIC

The technic of this method is to withdraw 8 c.c. of blood from the patient's vein and defibrinate it by means of glass beads. Take 1/4 c.c. of this blood and measure into a test tube, then add one drop of the positive culture and one drop of donor's serum, rotate in centrifuge 16 revolutions per minute at 37° centigrade for 15 minutes. Make a blood smear and count the number of organisms in the leukocyte and the per cent of leukocytosis containing the organisms.

The donor is selected first as having had scarlet fever, erysipelas or septic sore throat; then after typing and cross matching, the above procedure is carried out. The donor whose serum causes the patient's cells to take up the most organisms in the greater per cent of leukocytes is the one having the most antibacterial antigen, and he is selected.

Recently, in septic cases that show either a lateral sinus thrombosis or a perisinus abscess, or in those very acute cases where there is a diffuse infection with rapid destruction of the mastoid and general manifestations of sepsis, a culture and a smear are used in the same procedure and the results have been most gratifying.

In order to determine the resistance and improvement of the patient, Schilling counts are made prior to transfusion and then six to eight hours following when there is a sustained shift to the right the transfusions are discontinued. Small transfusions are advocated, 150 c.c. to 200 c.c. every eight hours for 24 hours then 300 c.c. daily or every other day as the patient's condition warrants, until the shift is to the right. This is time saving, for a transfusion can be given two hours after positive culture. There is no objection on the part of the donor to any sort of injection as is frequently the case and there is no reaction as in the case of chemotherapy.

If there is an erythema, either scarlet fever or erysipelas serum is injected and if it blanches the area for one-half hour it is taken as an indication of the favorable need of the antitoxin and 5 c.c. is injected intramuscularly.

To illustrate these points and bring out the use of the transfusion and antitoxin, three case reports are presented.

CASE REPORTS

Case 1. A white female, aged 27, entered the hospital complaining of severe earache on the right side for past two weeks. Three days after the onset she had a spontaneous rupture of the drum with bloody discharge which remained thin and sero-sanguinous. Two days prior to admission she had a chill with temperature 104° and had three such chills. On admission, the temperature was 104.2.° Examination showed tenderness over the mastoid; the posterior canal was not down, but there was a posterior superior perforation with a pulsating, serous discharge. Nose and throat were negative; neurologic examination negative. Roentgen ray showed beginning destruction in the region of the lateral sinus. Blood culture was taken and a right, simple mastoid done. The sinus plate was necrotic and perisinus abscess was found with thrombosis of the lateral sinus from the posterior superior angle to the bulb. Culture was taken from the thrombus and the front face of the sinus was removed, free bleeding from upper end only. The wound was left open and packed. She had a chill that night with temperature 105° and again the following morning with a rise to 106°. Schilling count showed a shift to the left. Positive culture was reported and after tying the jugular, an immunotransfusion was given. Following the first transfusion she had no more chills, temperature remained 102°; after the third transfusion, temperature was 99° and after the fourth, the following day, temperature was normal and remained so, the patient making an uneventful recovery in three weeks.

This is an illustration of a purely septic case in which the antibody antigen had the desired result. Four transfusions were sufficient, three of 150 c.c. each at eight hour intervals and one of 300 c.c. twenty-four hours later. The Schilling index remained to the right showing a favorable prognosis and the transfusions were discontinued.

Case 2. A white female, aged 18, was admitted to the hospital with a history of foul discharge from right ear for 14 years. For the past three weeks she had had right sided headaches and dizziness; day prior to admission a chill and temperature 104°. On examination, slight mastoid tenderness on the right, foul, thick purulent discharge with a question of cholesteatoma, large posterior superior perforation, redness about the mastoid and down over neck, pulse 140, the nose and throat negative, neurologic examination negative, eyes negative; roentgen ray report, a large cholesteatoma. Radical mastoid was done at once and the sinus plate found eroded through by a large infected cholesteatoma with a perisinus abscess and granulations over the sinus, but no thrombosis. That night, patient had a chill with temperature 105°; blood culture taken which was reported positive in 12 hours. Schilling index to the left. Three immunotransfusions given and patient had a chill four hours following the first but none following the third transfusion. Temperature remained 103° and after the third transfusion 10 c.c. of erysipelas serum given eight hours apart in 5 c.c. doses. The following day, after the fourth transfusion, red splotches on her neck disappeared, temperature 99° and pulse 100. No more chills and patient made an uneventful recovery in four weeks.

This illustrates a combination of the two elements, namely; toxic and septic. The transfusions were not enough, but with the aid of the serum, were sufficient to cause Schilling index to the right which was sustained.

Case 3. A white male, aged 46, with a carcinoma of the nose, was admitted to the hospital. The growth was limited to the bridge at the junction of the nasal bones and lateral cartilage and was 1 cm. long and ½ cm. wide, with necrosis of the bone and septal cartilage and erythema of the skin following roentgen ray. With local treatment the infection subsided, although not cleared, and the nose was removed. The following day patient had temperature 103°, pulse 150, nausea and general malaise. The erythema, which had subsided, appeared and spread over the face, but no chills and the temperature remained 103°. Blood culture was negative. Ten c.c. of erysipelas serum was given plus 300 c.c. of whole blood. After the fourth dose of serum the temperature came down to normal, erythema cleared with the second dose, no more nausea, patient had plastic surgery and eventually was discharged.

This illustrates the toxic case. The transfusion was given merely as a palliative measure, as is advocated in the toxic cases.

CONCLUSIONS

Immunotransfusions have generally given better results than chemotherapy and sera. They must be accompanied by adequate surgical drainage where possible, otherwise give only temporary relief.

The method outlined above of the septic element and the toxic element, immunotransfusion in the former and the immunotransfusion and antitoxin in the latter have given the best results to date. Although only 10 patients have been collected so far, 100 per cent have recovered.

DISCUSSION

Dr. W. A. Ellender, (Houma): Immunotransfusion is a relatively new subject and very little work has been done in the South on it. In selecting donors for transfusions there are always a few general things to be remembered. Try to select a young and robust individual if possible. Secondly, select an individual who is free from any communicable diseases and it is well to remember the possibility of protein sensitivity in some of these cases. The cases that Dr. Lynch has reported were certainly very sick individuals and the results obtained from the use of immunized blood certainly show the practical value of using this method in otology.

In any type of virulent infection the most important thing of course is adequate drainage. After that is established the prognosis on all cases depends upon the individual resistance.

The use of the non-specific type of immunotransfusion is the more practical type. The specific type is more effective but as pointed out by Dr. Lynch it takes a longer time to immunize the patient against the specific organisms. Giving typhoid organisms to patients to stimulate antibody formation requires but a short time and as I have said seems more practical. One might say, why not just inoculate the patient and let him develop his own anti-bodies? This, of course, has been used as we all know but in the type of infection that Dr. Lynch has described we are dealing with blood destroying organisms and replacement of the blood is very important.

Dr. J. Raymond Hume, (New Orleans): Dr. Lynch has presented a method that is certainly correct in every respect. From the results acquired in these cases and the seven additional he mentioned, it is certainly a successful treatment in fact.

A few years ago, four or five, there was a great deal of interest in otologic literature regarding the various methods of immunotransfusion in handling these septic cases. Then the study of immunotransfusion with sulfanilamide came on the scene. It has ruled the stage for the past three years and is probably a great subject of study in immunotransfusion.

One man had asked that all cases in his hospital be registered that had recovered from septic conditions wherein the organism had been typed, especially streptococcic types. Four or five weeks after recovery they were asked to present 500 c.c. of blood, from which a serum was made and kept in supply. Then upon the development of otologic or septic cases of any kind the culture was made and typed as early as possible and the patient was given the serum. It seemed to be very much more effective and it is suggested to many of us that it might be a good thing for other cities to do.

Now that Dr. Lynch has offered this system of blood transfusion, it might be acquired from those recovered from infections. Certainly it is not difficult to register and have available donors in the event they are needed. Most of us who are doing ear work know that thrombosis of the lateral sinus or blood stream infection from the sinus is a serious condition. Dr. Lynch is proposing a splendid thing and the suggestion that we have registered donors so that we may get blood in the beginning, will be worth while.

Dr. H. Ashton Thomas, (New Orleans): I wish to ask Dr. Lynch one question in this respect. It refers to the donor. How recent would the infection have to be in the case of the donor to be of benefit in his particular type of transfusion? I would like to know whether it would have to be a recent infection, within three or four months, or even a year or more and yet be a suitable donor.

Dr. Mercer G. Lynch, (In conclusion): There have been many good results in years past and before my time with mercurochrome. I have seen one remarkable case from use of this drug, another from acriflavine, and several from Pregl's iodine. Recently, the use of sulfanilamide was called to our attention, and the advantages that this drug has produced in these severe infectious cases. There have been many good results. Think back, you who have used it, and see how many bad results or complications you have had by using it. We have used it quite frequently on the Nose and Throat Service. Cases are reported which had anuria, and vomiting, and cases where these symptoms were so marked medication had to be discontinued for a while. There were some patients in whom, following the use of sulfanilamide or prontosil, the temperature remained elevated as long as the drug was used and did not come down until the drug was discontinued. Several patients in the beginning had to be administered oxygen for severe anoxemia.

In cases where transfusion is used, not only is one helping to fight the infection, but where the infection is of the hemolytic streptococcal type, the blood is being replaced that is lost. If the time for transfusion is carefully chosen there should be no bad reactions.

In answer to Dr. Thomas' question as to the selection of a donor who has had either scarlet fever, septic sore throat or erysipelas, I have found that six weeks is the minimum time to take cases. Several have had their sickness a year. It is known there are many different strains of septicemia and many types. A septic sore throat of one type may not exactly fit the type causing the present illness. That is why in several people who have had erysipelas, scarlet fever or septic sore throat, one will be found out of five or six who stand out above the rest, in that their serum causes the patient's cells to take up a greater number of organisms.

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STATE MEDICINE

The splendid address of Dr. Charles M. Horton, delivered before the annual meeting of the Louisiana State Medical Society in May and published in the June issue of this journal, should be read carefully and digested thoroughly by every member of the State Medical Society. The address is replete with arguments showing why State Medicine would be harmful to the development of the medical profession in the United States and a distinctly detrimental method of practice as applied to the citizens of this state and country.

There are several statements in this address which well might be restressed and again accentuated. Horton writes, for example, that the practice of medicine is comparable to individual liberty. It is fundamentally an expression of the ethical life and it will suffer to a high degree if its liberty is invaded. State Medicine would contain evils which would probably be worse than those faults it purports to correct. Politics is likely to dominate State Medicine and health measures. Again, to paraphrase Dr. Horton, this is particularly dangerous because there are certain inherent faults with any large system which is governed and controlled politically. He says, furthermore, that there is bound to be a rise in taxation, particularly of interest to those who are called upon to pay the taxes and who resent the present imposts.

Under state controlled medicine men would be further regimented. A noble profession would be dragged into the dust at the instigation of sentimental social theorists. Sentiment has never been a success in practical life. He quotes President Wilson as saying, "it will be a sad day for society when the sentimentalists are encouraged to suggest all the measures that should be taken for the benefit of the human race."

Horton says State Medicine is the beginning of the end of state government. The Commonwealth gives up its privileges and prerogatives to let the central government dominate; where it dominates, eventually it controls; once a bureau is established it keeps on getting larger and larger and demanding more and more from the taxpayers.

The advancement of scientific medicine is dependent upon independence in medical practice. The independence of our citizenry has been gained through tremendous trial and prodigious expenditure of blood. Let us not lose the priceless heritage which our forefathers gained for us a century and a half ago; let us maintain our independence; let us preserve our intellectual and medical freedom.

NERVOUS COMPLICATIONS OF MEASLES

Under the above caption appears a short article from the University of Cambridge which, in spite of its brevity, merits comment. Nervous complicatons of measles apparently are increasing in incidence, possibly because the physician is more on the lookout for them than he has been in the past, but nevertheless they are being recognized and the reason for this does not make very much difference.

Six groups of clinical expression of central nervous involvement have been cataloged: First, mild and transient diffuse cerebral symptoms, such as stupor, headache and vomiting, with possibly a suggestion of meningismus. These patients usually recover but may develop one of the subsequent clinical manifestations of brain involvement. Second, these lesions consist of multiple focal or diffuse involvement of the nervous system, producing symptoms such as tremor, spastic weakness of the extremities, aphasia, or they may even mimic a true meningitis or encephalitis. Under three are listed aphasia or hemiplegia as result of a group of single focal cerebral lesions. The fourth group is that one which expresses cerebellar syndromes such as scanning speech, nystagmus, intention tremor, or general or local ataxia. In the fifth group are the special cord syndromes such as acute ascending paralysis. The last group, number six, are miscellaneous nervous complications such as toxic psychoses and papilledema. This division of the nervous complications of measles, sketched above, was made by Ford in 1928. There seems to be no reason why it should be changed in 1938. In Ford's series of cases the mortality rate was about 10 per cent and about 60 per cent of the children who survived showed residual symptoms.

The pathology in central nervous involvement includes: (1) congestion and hemorrhage; (2) perivascular infiltration, and (3) perivascular demyelination, a picture comparable to that which occurs in post-vaccinal encephalitis and other types of encephalitis which may develop after some of the acute childhood diseases. It has been suggested, incidentally, that the encephalitis which occurs after the acute exanthemata may be due to an entirely different virus than the one which produces the primary disease.

The nervous expressions of these childhood eruptive fevers may first show themselves between the third and fifth day; then there is a lapse of five or ten days in which they are unlikely to develop and then between the tenth and twentieth day of convalescence they may put in their appearance if they have not already done so. In the present case report of Cole* the patient, somewhat less than three weeks after the onset of an attack of measles, developed her symptoms of encephalitis. She had slurring of the speech, diplopia, exaggerated tendon reflexes and some choking of the disk. Lumbar puncture was performed but it showed nothing, contrary to the usual findings which are an increased cell count up to 200 per cu. mm. made up largely of lymphocytes. This patient subsequently developed weakness of the face and nystagmus, together with delusions and hallucinations. In about three weeks her signs and symptoms had disappeared and a year later her neurologic examination in every respect was normal.

The physician should be on the watch for the clinical manifestations of the nervous complications of measles. Perhaps as they are so obvious it is not as necessary to be on the lookout for them as it is to know that when they do appear they usually are not fatal and that the patients recover with only a very small trace of residual symptoms at the most.

SOCIAL MEDICINE

Editorially, comment was made last month of the meeting that is now being held in Washington under the leadership of Miss Josephine Roche. It was pointed out that this meeting had varied implications for American medicine; it was felt that the meeting would be very largely one which would be the initial effort of the Federal Government to take over the conduct of medicine throughout this country and in the several states. In other words, it might mean that following the meeting there would be recommendations that all health measures, from the prevention of disease on a large scale to the care of the individual patient, become a matter of government control and regulation: In other words, the beginning of state medicine. Furthermore, it was suggested that the meeting would be a packed meeting. From the current newspaper reports, it seems to be that such is the case. When a man like Doctor Cabot makes the ridiculous statement that thousands of young physicians are starving; then implies that the bulk of the lower economic third of the population is not receiving medical care, and then has these wild statements enthusiastically applauded and almost cheered, it is apparent that the meeting is not going to be judicial in its attitude. Such statements are reckless and unproved. If there are thousands of young doctors unable to make a living in this country, we we would like to know where they are. Certainly they are not in this section.

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*Cole, A. E.: The nervous complications of measles, Brit. Med. J., p. 1361, June 25, 1938.

Of the main recommendations of the committee, the first has to do with giving large sums of money to eradicate tuberculosis, venereal disease, malaria and what not. Enough money has been poured out by the government to prevent disease in the last two or three years to do just this, and it is doubtful if any more huge sums are needed to intensify this campaign. Money cannot do everything, and it is absurd to think that it can. The committee, in the second recommendation, urged extension of hospital facilities by 360,000 beds. This, also, seems like useless and needless waste. The hospital beds in this country are not full now, and, if there is in any community insufficient hospital facilities to take care of the indigent, we would like to know where it is. As a matter of fact, the largest and best of hospitals in this country have to do with the care of the indigent. The third recommendation, to give grants to the state to care for the one-third of the population that is presumed to be receiving inadequate medical services, is also subject to severe criticism. We in Louisiana know that our state hospitals have taken care of the indigent adequately and fully; that additional provisions are being made when and where they are needed, and that, as a matter of fact, the poor man obtains most excellent medical services.

It is our firm belief that the figures on which are based the various statements made at this meeting are incorrect or are wrongly interpreted. Certainly they are not in accord with those advanced by the American Medical Association. As indicative of the passionately appealing statements that have been made is one to the effect that 1600 counties in the United States are without hospital facilities. Of course that is so. There are many parishes in Louisiana without hospitals, but they are sparsely settled and usually the people of that parish are close to another parish which does have hospital facilities so that there is no real need for a hospital in that community. As a matter of fact, there are less than 2,000,000 people in the United States as far away from a hospital as thirty miles, and these people are in communities of very small size.

We agree heartily with Doctor Abell who says that to set up a centrally controlled medical service plan suitable for varying conditions that exist in the states, counties and cities of the country is most impractical. We are definitely of the opinion that all of these health matters are primarily the function of the state or county and not of the Federal Government. Furthermore, we believe unreservedly that this agitation for federal control of the health of the nation has a decided political slant. It seems like another one of the ill-advised and unnecessary and premature social dreams of the new dealers that will appeal to the voters. There will be wasted a tremendous amount of money, which can never be recovered and will be gone forever. The health scheme promulgated without thorough study and factual findings will come first to a halting ineffectiveness and eventually to a moribund conclusion.

A TEMPLE FOR REED

It is very laudable to memorialize heroic characters. Devoted children do so, and give expression of their inner self by erecting monuments in memory of dear ones. They sing songs of praise, sustaining strains, to reach towering spires, and labor to have the echoes of their devotion continue to resound throughout the centuries. Bravery is enshrined in our hearts and there is naturally a nameless something that impels us to record noble action. Having been edified by our forebears, we in turn should urge our children to equal devotion until time is no more.

Walter Reed, James Carroll, Aristide Agramonte and Jesse W. Lazear were heroic men. Their memory should be kept sacred and tower the pinnacles of this great city. They labored and fought for humanity, for the lives of citizens of cities, state and a nation. They did not falter and crossed the river unhesitatingly. New Orleans shall never forget.

Reed passed away on the white wings of immortality within a year of his accomplishments. Lazear gave up his life for his fellow men. The four men should be cited for unexampled valor. With marked felicity the location for their monument should be chosen, and given a position within the area where the members of the medical profession congregate. What could be more praiseworthy than to enshrine them in a temple. Their discovery meant the rebirth of this city, and the salvation of a large section of the continent. They are entitled to the highest of honors. Hygeia, the goddess of health, would welcome them, Aesculapius, the father of medicine, would give approval and the world at large would be moved without fear of Apollo's thunderbolt. The shining columns of such a temple would reflex the action of the heart for ages.

The Reed Memorial Committee of the Louisiana State Medical Society, under the chairmanship of Dr. A. E. Fossier, has labored for some fifteen years to accomplish this dream, and now comes the realization. This year will witness the erection of a monument telling the nation of a true and just devotion. All praise to him who would persevere when meeting obstacles to record for history the deeds of great men.

D.

HOSPITAL STAFF TRANSACTIONS AND CLINICAL MEETINGS

SHREVEPORT CHARITY HOSPITAL

After dinner in the hospital dining room, the staff meeting was opened in the Assembly room at 8:00 p.m. on June 21, 1938, with Dr. Sanders presiding.

Following the reading of the minutes, which were duly approved as read, the Scientific Program was turned over to Dr. M. D. Hargrove, who presented four cases of digitalis poisoning.

DIGITALIS POISONING

The first patient had massive doses of digitalis prior to hospitalization and entered the hospital with marked nausea and vomiting, ventricular tachycardia, visual disturbance, and cardiac distress. The cause of her original cardiac damage was probably toxic. Electrocardiographic tracings showed digitalis poisoning. After some apparent improvement, following the discontinuation of digitalis, the patient died of ventricular fibrillation.

The second case had rheumatic heart disease with mitral insufficiency. The patient received digitalis 1½ grains t. i. d. for a total of 54 grains, producing a two to one block. Electrocardiographic tracings followed throughout, showed return to normal after discontinuing the drug.

The third case presented had syphilitic aortitis and under digitalis developed auricular fibrillation.

The fourth case had rheumatic heart disease with A-V dissociation due to digitalis.

Discussion was by Drs. Sanders, Cassity, Sanderson, and Boyd.

William M. Hall, M. D.,

HOTEL DIEU
NEW ORLEANS

The regular monthly meeting of the Staff of Hotel Dieu was held in the Nurses' Lecture Room of Hotel Dieu on Monday, June 20, 1938. The meeting was called to order by the President, Dr. A. D. Mouledous, and with the Secretary, Dr. C. E. Gorman, at the desk.

The Scientific Program consisted of a Clinico-Pathologic Conference.

Dr. John Couret presented a case report with autopsy findings and lantern slide demonstration of metastatic melanomata in the liver, adrenal, pancreas and heart. The primary site was probably in the right eye which had been removed twelve years previously.

Dr. C. E. Gorman presented a case report of a 57 year old white woman who was seen for the first time March 22, 1938. At this time she presented a history of beginning to feel badly early January 1938. This was just a generalized weakness and malaise. In the early part of February she noticed that her right extremity began to get stiff and was somewhat weaker than the left. This progressed gradually until generalized paralysis of the right side was noticed on March 10, 1938. Since this paralysis was noted, her speech also became affected, was quite slow and slurring and with a great deal of difficulty in pronouncing words; also a dysphagia was present. On admission blood pressure was 120/70, respiration 25, pulse 90, temperature 98.2. On physical examination it was noted that her right pupil was dilated and did not react to light or accommodation. Pupils were round and regular but unequal. Patient could not protrude tongue, spoke with a great deal of difficulty, and presented a great deal of difficulty on swallowing. The thoracic cavity on deep inspiration showed marked lagging on the right side. There was a spastic paralysis of the entire right side with a positive Babinski on the right. Spinal fluid survey and spinal puncture were grossly negative. Blood picture was negative except for slight anemia; blood chemistry normal. P. S. P. normal; urinalysis normal. Roentgen ray March 24, 1938 showed skull negative and sella turcica normal.

A diagnosis was made of cerebral neoplasm and Dr. Fenno was asked to see patient in consultation March 26, 1938. It was his opinion that the diagnosis was also cerebral neoplasm and the patient was treated accordingly. She was given supportive treatment and gradually declined and expired on April 11, 1938.

An autopsy was performed by Dr. M. Couret, which showed the following: The inner and outer plates of the skull were negative. The dura mater, pacchionian granulations and sinuses were negative. A slight flattening of the cerebral convolutions and narrowing of the sulci were present bilaterally. The blood vessels were mostly injected. At the vertex of the left cerebral hemisphere in the precentral region of the frontal lobe there was a slightly depressed area about 1½ cm. in diameter which was somewhat soft in consistency. This region also showed a number of small tortuous distended vessels on the surface. Otherwise the external surface of the brain showed nothing remarkable grossly. The vessels at the base were only slightly sclerosed. The ventricular system was of normal size and no occlusion of any of its passages found. The choroid plexus in both lateral ventricles were somewhat swollen and red in color. Section of the left cerebral hemisphere showed immediately beneath the abnormal area previously described on the external surface, a globular mass of tissue about 6 cm. in its greater diameter. This tissue was poorly demarcated from the surrounding tissue although there is a distinct zone of increased density palpable at its periphery. The mass extended above and somewhat lateral to the roof of the ventricle. Its cut surface, particularly the central portion, was extremely soft in consistency, grayish red to yellowish red in color, and granular and it presented a few minute cystic cavities in the center. Several small engorged tortuous vessels were seen on the cut surfaces nearer the periphery. The remainder of the brain showed nothing remarkable grossly. Diagnosis: Glioma; astrocytoma.

Dr. John Signorelli discussed birth injuries with special reference to intracranial hemorrhages. His talk was supplemented by a film demonstrating the method of producing such injuries, the pathology, and treatment with special reference to the prevention of remote physical and mental deformities.

J. T. NIX CLINIC

New Orleans

At a meeting held in July, Dr. C. E. Gorman presented the following paper:

EMESIS GRAVIDARUM

Vomiting of pregnancy has been well named in calling it the "disease of theories." In reviewing the literature one may find many hypotheses regarding its etiology. None of them is well founded. There is no definite or absolute explanation for this exasperating condition. In this paper I will deal with mild and moderate cases of vomiting rather than with those coming under the classification of hyperemesis.

Inquiring of the sick in general it is learned that the majority give vomiting as the most disagreeable event that befalls them. This is especially true of the operative patient who will say, "I did not mind the operation—but the postoperative vomiting—!" Thus, in handling obstetrical cases we should have more compassion and pity for the gravid individual who unfortunatey develops emesis.

Andrews[1], in presenting a discussion of the etiology, refers to the stereotyped classification, namely: neurotic, toxemic and reflex. He expresses his opinion that such a subdivision is needless since in every case all these factors can be found. Yet, it is true that in each case, one of these three factors will be paramount. It is my opinion that this classification not only should be made but must be enlarged to include avitaminosis, fetal toxemia, liver toxemia, kidney dysfunctions, hypoglycemia, glycogen deficiency and electrolytic salts (mainly sodium chloride) deficiency. Then must be added metabolic and endocrine upsets as well as auto-intoxication from the intestinal tract.

One must never view these cases so lightly as to ignore them. Often vomiting is due to some definite organic pathology. In this class we include those cases with intercurrent gallbladder attacks, either stones or infection. Probably the most dangerous is appendicitis. The most frequent is pyelitis.

The psychic element concerned in the vomiting of pregnancy is certainly definite. Hicks, Drennan and Holman[2] very aptly summarized the psychologic background of certain cases. Some women who have become pregnant against their wishes have a natural abhorrence of this condition. Definitely these women develop vomiting because of self pity. Again we have the individual who has been married for some number of years, is desirous of children, becomes pregnant. From then on she develops vomiting. This happens because she, as well as many other women believe that "morning sickness" must accompany a pregnancy. Another of this class is the woman desirous of showing her husband how much she must suffer to have a baby.

Any of the above causes could be the etiologic factor concerned in a particular case. Once the vomiting begins a definite fluid loss develops as well as a marked loss of the electrolytic salts. These lead up to a dehydration and a disturbance of the acid-alkali balance. In addition, there is an actual avitaminosis which develops due to the lack of proper food intake. Thus a vicious circle has developed. Definite proof of the psychologic or neurotic element in emesis gravidarum can be found in the J. T. Nix files. Mr. P. who is a successful business man, is very stable in character. His wife became pregnant. Shortly afterwards she developed vomiting. In sympathy with her he actually suffered as much nausea and vomiting as his wife.

After much deliberation and the perusal of many articles concerning the etiology of emesis gravidarum, I have determined that no specific etiology can be named. There are numberless causative or exciting factors which kindle the fire. These merely start the cycle of vomiting and should be considered as factors and not as a true or specific etiology. If there is such it remains to be discovered.

The treatment herein discussed does not include methods to control hyperemesis. Such patients with protracted vomiting should be hospitalized. I will confine this discussion to those methods which should be used in treating the ambulatory or mild cases. First and foremost, it must be remembered that the treatment is entirely symptomatic. The nausea and vomiting must be controlled. A careful history may help to analyze the patient and place her in the proper category. A large percentage of these patients will be nervous and apprehensive. The majority are under the impression that they must vomit during the pregnancy. Any number, not vomiting, will ask, "When do I start vomiting?" This type definitely belongs to the neurotic group. A simple, inexpensive and yet a very effective remedy for this class is a combination of luminal, grain one-fourth with elixir lactopepsin as a vehicle. This is pleasing to the patient's taste, helps digestion and adds just sufficient sedation to calm the nerves.

Another simple mixure which likewise is empirical is equal parts of gastron and elixir lactopepsin. This is administered in two dram doses after each meal. The pepsin has enough sting and soothing odor to assist materially from the neurotic viewpoint. In addition the gastron and pepsin aid the digestion sufficiently to produce beneficial results. This combination could also be fortified by a mild sedative.

That proper elimination is essential is an undisputed fact. Those patients suffering from a certain amount of auto-intoxication, sluggish or improper peristalsis, develop emesis. This group has responded very nicely to a combination of magnesium oxide heavy, and bismuth subcarbonate. These are mixed in powder form in the ratio of one to three. It is best given after meals in milk, the average dosage being one dram. In the event that these simple methods fail we next use parenteral injections. The old standard of these is the corpus luteum extract which is given one c.c. daily. Usually six to twelve of these must be given. During recent months Armour Company has placed on the market a suprarenal cortex 250 per cent. This has been used in cases not responding to simple methods. I have had good results with both of these parenteral injections. It is good to note at this time that one patient, Mrs. K., had received eighteen doses of corpus luteum extract and continued to vomit. She was given betaxin tablets morning and night. Her vomiting was controlled and as she expressed it she had become "entirely dependent on the tablets." She received one morning and night. Her appetite improved and she is progressing nicely. It is absolutely certain that these patients with vomiting, with poor appetite, and limited food intake become definite cases of avitaminosis. Some of these cases can be cured by a gastric lavage. For this the well known and used Levin nasoduodenal tube is used.

Zener[3] reported failure with adrenal cortex solution administered parenterally. He suggested the water-soluble extract of whole ovary known as agomensin. In addition to these parenteral injections he administered hydrionic tablets in order to restore the electrolytes. As additional therapy he gives an erythema dose of ultra-violet irradiation, especially to the epigastrium, every second day.

In contradistinction to Zener's report, Freeman, Melick, and McClusky[4] report good results with suprarenal cortex. They summarize the results of 78 cases with only two failures.

Kassebohm and Schreiber[5] express the belief that prenatal care is not undertaken early enough to prevent cases of hyperemesis. This is in perfect harmony with our thoughts. If the prenatal care is started early enough, that is when the vomiting is in a controllable stage, a great reduction in the number of severe cases would be accomplished.

McGowan, Baker, Torrie and Lee[6] reported a very interesting series of cases. They had tried sedation, intravenous glucose and many other methods; all with failure. They propounded the theory that it was probably due to a spasm of the second portion of the duodenum with a decrease in the tone of the stomach. They tried amyl nitrite and glyceryl trinitrate with satisfactory results. Consequently they recommend the use of glyceryl trinitrate, 0.01 grain placed under the tongue ten minutes prior to eating.

SUMMARY

Having reviewed the literature in regard to etiology I have concluded that no specific etiology can be mentioned. Any case might belong to one of the many groups. It is very difficult to classify a certain few of these cases. A careful history and general survey of the patient's nervous stability are great aids. As for the treatment it still remains empirical and will necessarily continue to be so until a more specific etiology is uncovered. Nevertheless, many of these cases are curable. Let us proclaim the faith of Paracelsus[7], "Let no doctor declare this disease is incurable."

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HUTCHINSON MEMORIAL CLINIC

Scientific Session conducted by the Department of Gynecology, Dr. C. G. Collins presiding:

Embryology of the Ovary (Dr. Harold Cummins, Department of Anatomy): The ovary originates in close association with the mesonephros. Developed in the period of the fifth through the ninth weeks, each mesonephros consists of a mass of coiled tubules, forming an elongated bolster-like swelling on the dorsal body wall, the urogenital fold or Wolffian body. Early in its formation this mass presents a linear division into a lateral portion, the mesonephric fold, and a medial portion, the genital fold. The latter, the indifferent sex gland or gonad, is devoid of any sign indicating its future differentiation into either ovary or testis. Its early growth is due mainly to a proliferation of the peritoneal epithelium, which sends ingrowths (forming the inner epithelial mass) into the mesenchyme of the genital fold. The originally elongated genital fold is gradually rendered shorter and more compact, and at the same time its broad suspension from the Wolffian body is progressively constricted into mesenterial structure. It is important to note that the suprarenal gland is being differentiated in mesoderm adjacent to that of the primitive gonad, thus offering opportunity for inclusion of its elements in what is to be the hilar region of the ovary, mesovarium and broad ligament.

At about six weeks, if the embryo is male, the gonad presents signs of sex differentiation; in the case of the female the primitive characters are retained for a week or more longer. The early ovary is made up of a framework of mesoderm enlodging the inner epithelial mass and covered by peritoneal epithelium. The epithelial mass is composed of indifferent cells and primordial germ cells, the latter having been earlier incorporated into the interior as migrants from the remote intestinal epithelium. By the eleventh week the cell mass extends into the mesovarium (rete ovarii), and the ovary becomes less dense centrally; this less dense region, the medulla, is bordered by the compact cortex which in turn is covered by the germinal epithelium.

Further changes involve growths of connective tissue (mesoderm) and vessels from the hilus peripherally; at the margin of the cortex these expand and unite to form the tunica albuginea. Indifferent cells of the inner cell mass are chiefly transformed into sex cells. The sex cells of the medulla disintegrate, as may all the earlier ones in the cortex, but there is a contribution to the cortex of sex cells from the germinal epithelium; indifferent cells are applied around them as primordial follicles (to become ultimately granulosa cells) and in the future follicular development the adjoining stroma differentiates into theca cells. Postnatally, and even in the adult, such contributions from the germinal epithelium may continue. Of some hundreds of thousands of sex cells differentiated only several hundreds are destined to be liberated from the ovary, and present evidence indicates that these are all of later origin from the germinal epithelium.

Canalization of the rete ovarii does not occur until late in gestation. It is associated with a group of vestigial mesonephric tubules, the epoophoron.

By its position the developing ovary is susceptible to the inclusion of extraneous elements (adrenal and vestigial kidney structures) which later may give rise to neoplasms. The intense proliferation of truly ovarian elements, with constant degeneration and replacement of those earlier formed, predisposes to the occasional retention of progenitors of neoplasms, notably of granulosa and thecal nature. The transformation of the ovary from an originally indifferent state, through phases which are akin to the early history of the testis, is associated with possibilities of aberrant development of features which are not typically ovarian and their retention as sources of new growths (e. g., arrhenoblastoma; disgerminoma).

Pathology of Ovarian Tumors Arising from Embryologic Rests (Dr. William H. Harris, Department of Pathology): It occurs to me that an emphasis of the underlying principles together with an allusion to the salient cytology of this group, especially of the androgenic varieties should suffice for my allotment. The cytologic aspect can be best discussed in connection with the slide illustrations. Through Dr. Schattenberg, I have been fortunate in having sections from this group of tumors afforded us by the clinical material of Dr. Miller, Dr. Collins and other members of the gynecologic staff, together with a section of disgerminoma from the case of Dr. Storck, together with certain exchange slides from the laboratories elsewhere. We will reserve the discussion and demonstration of these with micro-projection at the conclusion of the general discussion of this topic.

While, for a long time, the interesting endocrine effects upon the host have been evidenced through tumors of the pituitary, thyroid, thymus, adrenal cortex, islands of Langerhans of the pancreas and others, it is only in recent years that those of the ovarian type have been emphasized. Where, in the human body, has nature demonstrated any more intricate hook-up of broadcasting stations than has existed between the ovarian and endometrial waves in symphony with the pituitary adrenal cortex and other endocrinological stations? The intricacies of the host reaction to prolan A and B, cortin, dihydro-esterone, progesteron, representing in great part a sterol nucleus which sterols also include the androsterone and dihydroandrosterone and testerone of the testicular hormone, are almost overwhelming.

Naturally, the masculinizing and feminizing type of tumors attract the greatest interest of this group. However, those of the neuter character, namely the Brenner's tumor and disgerminoma, must be concurrently considered. While the latter is recognized as springing from the neutral cells of the germinal epithelium, nevertheless, in those cases of hypoplastic genitalia, improved subsequently to the tumor removal some degree of endocrine factor present must be considered. Fauvet's statistics have shown more than half of such instances occurring in normal women.

Added to Dr. Cummins' interesting demonstration of the basic embryology of these structures, we are confronted at once with the substantial application of Conheim's interpretation of cell rests in the causation or origin of neoplasia.

In brief, Conheim asserted that "tumors develop from masses of simple or complex tissues misplaced during embryonal development, or that they arise from small groups of superfluous cells which have retained their embryonal characters even though not necessarily misplaced." From a review of the embryology of the ovary and the final maturation of this structure, one cannot help but be struck with the great accuracy of Conheim's long standing hypothesis and its very practical application particularly to the ovary. When one contemplates in the embryo, an indeterminate or undifferentiated genital gland or anlage perched on each side, in close embryonal relationship to a mesonephros or Wolffian body and to the fetal Wolffian and Mullerian ducts, all eventuating in adult sex differentation with rudimentary homologues and vestiges, one cannot help but readily discern the extensive field of application of Conheim's misplaced rest theory. As far as superfluous cell groups as a cause, such could not be better represented than by the one-half million or more of Graafian follicles that are estimated to be formed from the germinal coat and practically all dissipated during a lifetime.

With the aid of micro-projector, slides or disgerminoma, its related tumor semenoma, the two types of Brenner's tumor (solid and cystic) arrhenoblastoma, adrenal rest tumor, its related tumors hypernephromata of adrenal cortex and of the kidney, luteoma, granulosa cell, theca cell, were demonstrated and discussed.

In conclusion, might I not stress: First, the very tangible and practical application of Conheim's theory of tumor formation in connection with the neoplasia of this interesting group; second, that simple tumors of these structures and the affectation of the human economy by the hormone producing neoplasia of this group have their counterparts in many other organs of the body, for example, the simple fetal adenoma of the thyroid as contrasted with the thyrotoxic type—the simple hypernephroma of the kidney as compared to the rarer adrenal cortex tumor with its masculinizing hypertension and nephrosclerosis production—the simple adenoma or carcinoma of the pancreas and the hyperinsulinizing adenomas of the islands of Langerhans. These and others show the simplicity of some and the exaggerated hormone action or other endocrine disturbances of others; third, again we must be conscious of the small adenomas and hyperplasias of such organs as the adrenal cortex and pituitary body that may in reality be responsible for the endocrinological disturbance rather than some simple tumor of the ovary that has been found; fourth, and last, that our usual or basic types of ovarian tumors should be studied most carefully to ascertain if any latent cell origin may be held accountable. On the other hand, a desire for the more interesting must not cause us to borrow on our imagination for the purpose of finding of such. In other words, our emotional phase must not govern our careful fact-finding judgment in connection with the final diagnosis.

Dermoids and Teratomas of the Ovary (Dr. C. G. Johnson, Department of Gynecology): In the past, dermoids and teratomas were usually spoken of as the most interesting tumors of the ovary but they have been put in the background with the recent interest in those that, though rare, have definite endocrine influence on the patient. The dermoid and the teratoma have been likened somewhat to the fibroma and sarcoma and have been called benign and malignant dermoids. The great difference between these tumors is that in the teratoma each layer reproduces its own kind indiscriminately and often as whole organs and is in a rapid state of cellular division and invasion from its beginning. Dermoids are adult tumors, seldom if ever maligant, growing slowly. Teratomas are soon recognized after activity sets in. Of one thousand ovarian tumors reported from a Budapest clinic in 1937, 158 were dermoids and nine were teratomas; 138 of the dermoids were unilateral.

Clinically, the diagnosis of dermoids is very seldom made preoperatively, because they are not associated with definite clinical findings, such as are seen in a disturbance of normal ovarian endocrine function produced by a granulosa cell tumor or an arrhenoblastoma. They are usually diagnosed merely as ovarian tumors, cystic or solid in nature. At operation it is usually possible to recognize these tumors on their gross appearance. Dermoids are almost always unilateral and vary in size from 1 cm. in diameter to that of a man's head. The capsule is smooth and rounded and presents a characteristic milky white appearance. The inner layer has a smooth glistening skin surface, and interspersed are elevated islands, the surface being pitted by many sweat and sebaceous apertures. Hair grows from these islands and teeth lie imbedded in the tissue. Bone is frequently found in these tumors. Dermoids very often become infected and undergo abscess formation.

Teratomas may vary in size from a hen's egg to huge dimensions. They are usually solid in nature, comprising parts of several normal organs of the body. This reproduction of organs often is complete but generally other structures are present without any attempt at orderly arrangement. If these growths contain abundant thyroid tissue they are designated as "ovarian struma." These tumors are highly maligant and the outcome is generally fatal.

The treatment of dermoids is removal by surgery. Prompt surgery is required whenever a teratoma is suspected. Following its removal the long bones and lungs should be roentgen rayed and if metastases are found, they should be subjected to deep-ray therapy, which, however, is usually only palliative.

Disgerminomas and Brenner Cell Tumors (Dr. J. C. Weed, Department of Gynecology): The so-called Brenner tumor of the ovary is a rare tumor of disputed histogenesis, benign in nature, consisting of fibrous and epithelial elements and causing no pathognomonic symptoms. It is known also by the names "oophoroma folliculase," and "fibroepithelioma mucinum benignum." Brenner is credited with the first description of this tumor in 1907. Orthman described a tumor in 1899 which corresponds to Brenner's in description, but the name of Brenner has remained in association with this tumor. Two types are found clinically: (1) solid tumor and (2) a cystoma usually of the pseudo-mucinous type with small solid nodules in the cyst wall. Small cystic areas may be present in either, and the tumor, especially the solid variety, while usually a few centimeters in diameter, may be as large as a child's head. Very few bilateral occurrences have been reported. The tumor is yellowish white in color and rarely shows evidence of calcification. About two-thirds of the tumor is fibrous tissue having a tendency toward hyaline degenerative changes.

The clinical picture presented by Brenner's tumors is never such that a preoperative diagnosis can be made. The most prominent symptom is pressure sensation in the pelvis which might be attributed to any pelvic tumor. The tumor is found in women of all ages, the youngest reported case being nine years of age, the oldest seventy-three, but 60 per cent of the cases are post-menopausal. Of 76 cases reported in the literature only three were bilateral, one of which had on one side a solid tumor, Type I, on the other, the pseudomucinous, cystic type, Type II. No hormonal changes have been noted in a series of studied cases, and no uterine changes are found at operation. Menses as a rule show no irregularity. The concensus is that the tumor is benign in nature, since invasive characteristics and mitoses are absent. No recurrence follows operative removal, which in most cases is easily performed. However, Bland and Goldstein report one death from metastases postoperatively.

The treatment is operative removal of the affected side or sides. In general, the prognosis is good.

The disgerminoma is a rare ovarian tumor, arising from cell rests of undifferentiated sex cells of the primordial gonad, malignant in nature, but not productive of pathognomonic symptoms. Before Meyer's investigation of ovarian tumors, this tumor was variously called seminoma of the ovary, embryonal carcinoma, endothelioma and alveola carcinoma. The similarity in origin and structure to the testicular tumor has been demonstrated. Disgerminoma causes no pathognomonic symptoms.

Because of its origin from indifferent sex cells it produces no hormonal effect on the individual, thereby causing no change in the primary or secondary sexual characteristics. It is, however, frequently associated with subnormal sexual development, hermaphrodism, pseudo-hermaphrodism and cryptorchidism in the male. About 50 per cent, however, are found in ostensibly normal women who can, and have, borne children. The tumor is most frequently found in young women in the second and third decades of life, but has been found in middle-aged adults. In males, the age incidence is slightly higher.

The diagnosis of disgerminoma is seldom made preoperatively, although its presence should be suspected when a solid ovarian tumor creating no change in menstruation and secondary sex characters is found. The tumor is usually unilateral, varying in size from a few centimeters to a mass filling the abdomen. The tumor is usually nodular but encased in a dense capsule imparting a doughy or rubbery sensation to the touch. The cut surface is yellowish gray with or without areas of hemorrhage. In advanced cases, the capsule may be perforated with seeding of the entire peritoneal cavity with secondary growths. Bilateral disgerminomata are reported in 20 per cent of the cases, one of which showed a microscopic tumor in a grossly normal ovary.

Disgerminoma is a malignant tumor without question, but comparatively less malignant than granulosa cell tumors and more malignant than arrhenoblastomas. The prognosis is good, however, if the capsule is intact as it is in about sixty per cent of the cases. The decision as to the best method of treatment is a difficult one because these patients are young as a rule. The radical operation, bilateral salpingoophorectomy and supravaginal hysterectomy offers the best method and the safest in regard to recurrence. If conservative unilateral oophorectomy is selected, careful inspection of the opposite side should be made, although this will not exclude microscopic tumor elements. Many patients have become pregnant following this procedure. However, it must be remembered that many people are sterile from subnormal development both before and after conservative operation.

When the capsule is perforated, extension takes place as in the true ovarian carcinoma by seeding and by the lymphatic stream. Radical operation, when possible, followed by postoperative irradiation should be instituted. The value of postoperative irradiation is disputed but some tumors appear to be radiosensitive. Removal of the tumor in no way changes the individual's sexual make-up.

Case Report of Adrenal Cell Rest Tumor (Dr. R. E. Moor, Department of Gynecology): The patient, a white female, aged 27, complained of excruciating headaches with cessation of her menstruation one year ago. Seven years ago, following the birth of her second child, she noticed that her voice was becoming deeper. This gradually increased during the years that followed. At that time she also began to have changes in her menstrual cycle with irregularity of periods, prolonged bleeding and severe headaches and backache. The headaches and backache disappeared in about one year. She became pregnant and had a criminal abortion done at approximately six weeks. She bled considerably and had a high fever for four days. The menstrual irregularity continued until one year ago when amenorrhea appeared. With this last period of amenorrhea she again had headaches and backaches. These headaches were so severe three or four days each month that she could not get any relief and would not even try to sleep. During these seven years she has gradually noticed an increase in her body hairiness, breast atrophy, huskiness of her voice, none of which worried her. Only her headaches gave her much concern. On April 14, 1937, a Wassermann was positive and since that time she has received antiluetic treatment.

The patient has been married nine years; had three pregnancies, a girl of 8 years, a boy of 7 years, abortion four years ago. Libido has neither increased nor decreased in nine years. Physical examination disclosed a blood pressure of 145/90, a moderately coarse voice, a heavy growth of black hair on upper lip and less abundant growth on lower lip, an anterior cervical adenopathy; atrophic, flat breasts, with large nipples and hair around the nipple; abdominal striae; a clitoris enlarged three or four times, frequently becoming erected; a bluish discoloration of the vagina, rectocele, relaxed perineum, and a badly lacerated cervix with whitish discharge; a uterus normal in size and shape, soft, freely movable and not tender. In the left adnexal region there was a mass about 7 cm. in diameter, firm and freely movable. The extremities disclosed a heavy growth of hair. Lateral view of sella turcica, roentgen-ray of chest, plain KUB skiagram, blood picture, blood chemistry, Friedman and Wassermann tests and the sedimentation rate were all negative or normal. A clinical diagnosis of arrhenoblastoma of left ovary was made. On February 17, 1938, a left salpingo-oophorectomy and appendectomy were performed. A pathologic diagnosis of adrenal cell rest tumor was made on the removed tissues.

On July 3, 1938, she stated she had had no severe headaches since the operation. She has menstruated four times, normal in every way. Her backache has gone. Her breasts are getting larger. Her voice has lost its deepness. The hair on her face and legs is less conspicuous. The hair around her nipples is unchanged. She is very happy and has no complaint.

Granulosa Cell Tumors (Dr. E. H. Countiss, Department of Gynecology): Of the ovarian tumors having an endocrine influence, the granulosa cell type is perhaps the most interesting by virtue of the fact that it may so closely mimic a normally functioning ovary, causing menstruation and development of secondary sex characteristics before puberty or a return of the menses after the menopause. The maximal incidence is between the ages of 45 and 54 years. In a series of 1,728 ovarian tumors, 2.11 per cent were found to be of the granulosa variety. The majority of the 250 reported cases are unilateral and though they may become malignant, simple removal of the involved ovary seems sufficient if there is no evidence of spread.

Miss C. D., aged 36 years, complained of "almost continuous menstruation." Menses began at the age of 12, were of 28 day type, lasting six or seven day, until she was 26 years of age. For the following nine years, the periods occurred every three or four months, were scanty and lasted only two days. Then there developed a period of irregular bleeding not controlled by injections of theelin, antuitrin and progynon. At this time she developed a pain in the right lower quadrant radiating down the thigh. Menstruation ceased for three months and then returned, continuing with a progressive increase in pain. General physical examination revealed no abnormalities. The uterus was enlarged to the size of a six weeks' pregnancy. A preoperative diagnosis of endometrial hyperplasia and right ovarian cyst was made.

A curettage, a right salpingo-oophorectomy and an appendectomy were performed. The left ovary appeared grossly normal except for the fact that there were no follicles or evidences of recent corpora lutea. The right ovary measured 4 x 3 x 3 cm., was firm and its cut surface appeared distinctly granular, having somewhat the appearance of a hob-nail liver. The color was grayish pink. A gross diagnosis of granulosa cell tumor and hyperplasia of the endometrium was substantiated by the microscopic study.

Following operation, menstruation occurred in one month and lasted three weeks, when injections of anterior pituitary-like hormone were given. The following menstruations were normal. The patient married in three months and two months later an examination revealed a normal intrauterine pregnancy.

The irregularity of menstruation with periods of menorrhagia and amenorrhea may be explained on the basis of the endometrial hyperplasia which in turn is due to the excessive estrin secretion of the tumor.

There have been two previous cases of pregnancy following removal of granulosa tumors reported in the literature and several others notably associated with sterility.

Theca Cell Tumors of the Ovary (Dr. C. G. Collins, Department of Gynecology): It has been my good fortune to encounter two theca cell tumors of the ovary during the past seven months. Both patients gave histories of amenorrhea, varying from six to eight months, followed by menorrhagia and then amenorrhea again. There was no evidence of excessive masculinization or feminization in either patient. Physical examination was negative except for the presence of a tumor on the right side in case one, and on the left side in case two, of the consistency of a fibroma. At operation, in both patients solid encapsulated tumor of the ovary was found, yellow in color, and on gross section presenting the physical characteristics of fibroma. Following removal of these tumors the patients' menstrual periods have been perfectly normal in character, amount and regularity.

Microscopic section showed these to be theca tumors of the ovary.

These tumors are very easily confused with fibromata undergoing fatty degeneration both in the gross and in microscopic sections. Unless special fat stains are included in the microscopic study, a large number of these tumors will be wrongly diagnosed. The differential point, microscopically, is that in theca cell tumors the fat is both extra- and intracellular, and when examined under polarized light shows the fatty substance to be doubly refractile. These doubly refractile intra- and extracellular bodies are only found in tumors that cause masculinization or feminization of the individual, namely, arrhenoblastoma, granulosa-cell tumor, theca cell tumor, and adrenal cell rest. They are not found in tumors that do not present any sex change or excessive secretion of hormones, such as disgerminoma, Brenner cell tumor, fibroma, sarcoma, dermoid, or other solid tumors of the ovary. This doubly refractile fat is a cholesterol or cholesterol ester. Since there is a close association between cholesterol and androsterone, and the female sex hormone, it does not take much stretch of the imagination to realize why cells containing these substances are found in tumors that produce sexual hyperplasia, hypoplasia or reversion from one type to the other.

There are only 23 reported in the literature, two of which have been found to be malignant. Therefore, it is our belief that these tumors should be treated with the utmost conservatism, removal of the involved ovary being all that is necessary to produce a cure.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

During the month of July, besides the regular meeting of the Board of Directors, the Society held a joint scientific and second quarterly executive meeting July 11. The following program was presented:

A Study of the Thrombocyte in Allergy.
By: ....Dr. Narcisse F. Thiberge.
Discussed by Dr. Maurice Couret, followed by Dr. Morris Shushan.

Cyclopropane—Advantages and Disadvantages.
By: ....Dr. Merrill C. Beck.
Discussed by Dr. Ansel M. Caine.

Because of the small attendance at the meeting, only the reports of the Secretary and Treasurer were read. The Society then adjourned for summer recess until October.

A special meeting of the Board of Directors was called July 18 to consider a report of a special committee which had been working with the Department of Public Welfare of New Orleans. It was felt the contents of this report were of such importance that a special meeting of the general membership was called for July 25 to discuss this matter.

NEWS ITEMS

The following New Orleans doctors received appointments on various committees of the American Medical Association: Dr. Elizabeth Bass, regional director of the American Medical Women's Association for Alabama, Kentucky, Louisiana, and Tennessee; Dr. Guy A. Caldwell was named to the Section on Orthopedic Surgery; Dr. Urban Maes was appointed on the Advisory Committee of Scientific Exhibits; and Dr. John H. Musser, member of the Council on Medical Education and Hospitals.

At the meeting of the Fifth District Medical Society, June 10, in Monroe, the scientific program included papers by the following: Dr. E. A. Socola, "Banana and Banana Powder Therapy in the Diarrheal Diseases of Infants and Children"; Dr. Emmett L. Irwin, "Concerning the Gallbladder," and Dr. Thomas B. Sellers on "Office Gynecology."

Guest speakers at the meeting of the Third District Medical Society at Lafayette, June 27, were: Dr. Ambrose Storck who spoke on "Infections of the Foot and Leg," and Dr. Roy H. Turner who spoke on "Recent Advances in Vitamin Therapy."

Drs. Edgar Burns, R. L. Gordon, Robert F. Sharp and H. W. E. Walther attended the meeting of the American Urological Association, June 27-30, in Quebec, Canada.

Dr. Dean H. Echols, has been made a member of the board of directors of the University of Michigan Club of New Orleans.

Dr. Rawley Martin Penick, Jr., has been appointed as Assistant in the Department of Surgery of the School of Medicine of Louisiana State University.

At the July 6 meeting of the Hutchinson Memorial Clinic staff, Dr. Hilliard E. Miller presided. The symposium was "Ovarian Tumors Arising from Embryologic Rests." On the program were Drs. E. H. Countiss, Conrad G. Collins, William Harris, R. E. Moor, and C. G. Johnson.

Dr. F. E. LeJeune was elected vice-president of the Oto-rhino-laryngological Society at its recent meeting in New York.

Dr. Theodore J. Dimitry was guest speaker at the recent meeting of the Carrollton Business Men's Association, when he told of the plans to erect monuments and markers in the city.

The following doctors gave instruction in the postgraduate clinic recently held at Flint-Goodridge Hospital: Drs. J. N. Ane, John J. Archinard, Edgar Burns, Charles J. Bloom, Isidore Cohn, A. A. Caire, Conrad Collins, B. J. De Laureal, Andrew V. Friedrichs, Peter Graffagnino, Sydney Jacobs, E. L. King, Walter E. Levy, Maxwell E. Lapham, Urban Maes, H. C. Magee, Leon J. Menville, Hilliard E. Miller, J. W. Reddoch, William H. Harris, Robert E. Rougelot, E. Perry Thomas, Earl C. Smith, and E. B. Vickery.

Dr. Charles Brown Odom has been appointed surgical officer of Charity Hospital. On July 1, about 40 new interns were appointed to the hospital.

The Eye, Ear, Nose and Throat Hospital has become a member of the New Orleans Hospital Service Association.

Dr. Lewis A. Golden has been elected to membership in the National Committee for Mental Hygiene.

The following doctors were elected to membership:

Reinstatement to Active: Drs. Theodore T. Batson, Maurice Campagna, and D. A. Lines.

Active: Drs. Edward B. Faget, James P. Gillaspie, H. Reichard Kahle, Daniel M. Kingsley, Maurice D. Lang, Philip A. Neibergall, Malcolm P. Schwarzenbach.

Associate: Dr. Charles M. Banister.

Intern: Drs. Victor W. Bikales, Jaime Costas-Durieux, Harry Fishbein, Allan M. Goldman, Alfred Y. K. Hew, Robert A. Katz, Elmer E. W. Kramer, Irving D. London, Harry L. MacKinnon, Albert A. Maybeno, Ceferino A. Mendez, Sol Neidich, Luis R. Oms, Lloyd H. Patterson, John Rizzolo, Jack S. Shipp, and Walter C. Tumon.

It is with the deepest regret that we report the loss by death of one of our most active members and Past Presidents, Dr. Frederick L. Fenno. Dr. Fenno passed away Wednesday, July 20.

TREASURER'S REPORT

Actual book balance: 5/31/38	$4,766.26
June credits	410.39
Total credits	5,176.65
June expenditures	745.33
Actual book balance 6/30/38	$4,431.32

LIBRARIAN'S REPORT

During June, 914 books and journals were circulated from the Library, of which 200 were loaned to students and 714 to doctors. These figures include only titles for home loan. No accurate record can be kept of the great use of books and journals within the Reading Rooms.

Members of the staff during the month have collected material on the following subjects:

Fever therapy in the treatment of corneal ulcers.

Diagnosis of coronary thrombi by electrocardiography.

Prevention of venereal disease in maternity.

Water intoxication.

Aural vertigo.

Dissection of aortic aneurysm.

Gas bacillus infection of the pleural cavity.

Rupture of the pyosalpinx.

The Librarian attended the annual meeting of the Medical Library Association in Boston, June 27-30, as the official representative of this Library and that of the Tulane University School of Medicine. This meeting was the largest in the history of the association, 85 medical libraries in 31 states being represented. More than 120 medical librarians attended the sessions, coming from as far as Oregon, California, Minnesota, Texas, Louisiana, and Canada. Meetings were held in the Boston Medical Library, fourth largest in the country, and the Harvard Medical School Library, with opportunity to visit also the Treadwell Library of the Massachusetts General Hospital and the Boston City Hospital Library. One day of the meeting was devoted to an Institute on Medical Literature with discussions on bibliography, reference books, textbooks and general treatises, periodicals, medical literature of the past, with a demonstration of medieval and Renaissance medical texts, and a lecture on the literature of physiology. In connection with the visit to the Massachusetts General Hospital, the medical librarians were taken to the famous Ether Dome where occurred in 1846 the first public demonstration of the use of ether, and there witnessed a moving picture devised and acted by Boston physicians, depicting this notable event. Miss Marshall was elected a member of the Executive Committee of the association to serve for a term of three years.

A visit was made en route to the Medical Department of the New York State Library in Albany, which is used not only by the medical profession of Albany and the Albany Medical College, but also extends a loan service to the doctors of the entire state. This trip thus afforded opportunity for a visit to five medical libraries, none of which Miss Marshall had ever seen before. A number of new contacts were made which will prove of great value to our Library.

Thirty books were added to the Library during June. Of these 7 were acquired by purchase, 18 by gift, 30 by binding and one from the New Orleans Medical and Surgical Journal. Notation of new titles of recent date are listed below.

NEW BOOKS

American Pediatric Society Transactions, 1937.

American Urological Association, Western Branch, Transactions, 1937.

Beckman, Harry: Modern Methods in Treatment, 1938.

Gilbert C. Anderson, M. D.,
Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

NEWS ITEMS

Dr. Leon J. Menville, Professor of Radiology, Tulane Medical School, has been elected a correspondent member of the National Academy of Medicine of the Republic of Colombia, South America, in recognition of his international radiologic activities.

Dr. Charles James Bloom, Professor of Pediatrics and Director of the Department in the Graduate School of Medicine of the Louisiana State University Medical Center, addressed the Parents' Club at the Metairie Park Country Day School on June 10, 1938. Dr. Bloom spoke on "Juvenile Tuberculosis."

On June 24, 1938, Dr. Bloom conducted the Pre-School Children's Round-Up at Bay St. Louis, Mississippi. This activity was given under the auspices of the United States Public Health Service.

The annual meeting of the American Association for the Study of Goiter for this year will be held in Washington, D. C., September 12-14, in conjunction with the Third International Goiter Conference.

The next written examination and review of case histories of Group B applicants by the American Board of Obstetrics and Gynecology, will be held in various cities of the United States and Canada on Saturday, November 5, 1938. Last date for applying is September 5, 1938.

The next general examination for all candidates (Groups A and B) will be held in St. Louis Missouri, in June, 1939, immediately prior to the American Medical Association meeting.

REFRESHER COURSE IN PEDIATRICS

Dr. Robert A. Strong, of New Orleans, conducted a Refresher Course in Pediatrics in Shreveport, July 11-15. The course, which consisted of lectures, round table conferences and consultation, was held in the auditorium of the Shreveport Charity Hospital. The Committees on Medical Education and Pediatric Courses of the Louisiana State Medical Society, and the Bureau of Parish Health Administration and the Division of Maternal and Child Health of the Louisiana State Board of Health cordially invite all members of the profession to attend these courses which will be given at designated points in each councilor district.

HEALTH OF NEW ORLEANS

The Department of Commerce, Bureau of the Census, reports that for the week ending June 18, 147 people died in the City of New Orleans, divided between the two races 100 white and 47 negro. There were 10 death in infants under one year of age. There was a considerable drop for the next week, ending June 25, with 131 deaths, distributed 80 white and 51 negro; 13 deaths were in infants. For the week which came to a close July 2, the number of deaths was approximately the same as the week previous; the same number of negroes died, but four more white people and the total number of deaths for the week was 135. These figures are quite consistent because the next week, that of July 9, there were 133 deaths, divided 76 white and 57 in the negro population. Only 8 deaths occurred in infants under one year of age this week; there were 9 the previous week.

INFECTIOUS DISEASES IN LOUISIANA

Dr. J. A. O'Hara, epidemiologist for the State of Louisiana, has furnished us with the weekly morbidity reports for the state, which contain the following summarized information: For the week ending June 18, the twenty-fourth week of the year, the astounding number of 502 cases of syphilis was reported in the State of Louisiana. Other diseases occurring in double figures shrink to insignificance in comparison to this large figure; these are 55 cases of pneumonia, 54 of whooping cough, 42 of pulmonary tuberculosis, 41 of cancer, 32 of gonorrhea, 18 of malaria and 10 each of diphtheria, influenza, measles and typhoid fever. A case of poliomyelitis was reported from Orleans Parish, but it was imported from an outlying parish. Five of the instances of typhoid fever occurred in New Orleans. For the twenty-fifth week of the year, syphilis again led with 361 cases, followed by 62 cases of pulmonary tuberculosis, 50 of pneumonia, 38 each of malaria and whooping cough, 26 of cancer, 22 of typhoid fever and 20 of gonorrhea. Two cases of poliomyelitis were reported from Caddo and one from East Feliciana. Typhoid fever cases were reported from all over the state, Caddo and Orleans with 5 each leading all other parishes. For the week ending July 2, there were reported 159 cases of syphilis, 43 of whooping cough, 42 of pneumonia, 41 of gonorrhea, 34 of pulmonary tuberculosis and cancer, 21 of malaria and typhoid fever and 11 of measles. There were 3 cases of poliomyelitis reported this week, one each from Catahoula, DeSoto and Terrebonne parishes; a case of typhus fever was reported from Calcasieu. No parish had more than 3 cases of typhoid fever. For the next week which came to a close July 9, syphilis, with 160 cases, led all other diseases as is customary; then followed 66 cases of pneumonia, 46 of whooping cough, 45 of pulmonary tuberculosis, 35 of gonorrhea, 32 of cancer, 15 each of malaria and typhoid fever and 11 of trachoma. Two patients with poliomyelitis were discovered in Jefferson Parish; 1 patient with typhus fever was reported from Calcasieu and 2 from East Baton Rouge. Franklin and Orleans each had 4 cases of typhoid fever, no other parish reporting as many. For the next week 85 cases of syphilis were listed, followed by 68 of whooping cough, 54 of pneumonia, 53 of pulmonary tuberculosis, 31 of cancer, 20 of typhoid fever, 16 of gonorrhea, 13 of malaria, 12 of diphtheria and 11 each of influenza and septic sore throat. In this particular week, Franklin reported 8 cases of typhoid fever and Lafayette 2, no other parish reporting more than one case.

JOHN A. HENDRICK, M. D.

(1878-1938)

Dr. John A. Hendrick, of Shreveport, died suddenly on July ninth. A graduate of the University of Nashville, he practiced in Louisiana for many years and was an active member of the parish, district and state medical societies. Dr.

Hendrick was well known and well thought of, both personally and professionally, not only in the state but throughout the South. A dynamic surgeon and a charming gentleman, Dr. Hendrick leaves behind him a host of grateful patients and loyal friends.

FREDERICK L. FENNO, M. D.

(1895-1938)

The many friends of Dr. Frederick Leonard Fenno were saddened by his sudden death, July 20, at his home in Covington. One of the outstanding practitioners in medicine in Orleans Parish, Doctor Fenno specialized in neuropsychiatry. At the time of his death, he was Professor of Neuropsychiatry at Louisiana State University and Medical Director of the New Orleans Public School System. Last year Doctor Fenno was President of the New Orleans Graduate Medical Assembly and the year preceding that of the Orleans Parish Medical Society. He held many positions of responsibility and trust in organized medicine for which he was always an enthusiastic and active worker.

The doctors of New Orleans and Louisiana lose an important member of their profession; the many friends of Doctor Fenno in his passing lose a trusted and always agreeable associate.

F. P. CHILLINGWORTH, M. D.

Dr. Felix P. Chillingworth, for nineteen years Professor of Pharmacology and Physiology at Tufts Medical School, died at his camp in Concord. He was fifty-five years old. Dr. Chillingworth was born in New Haven, Conn., and was graduated from Yale Medical School in 1907. He taught at the University of Kansas and Tulane University, and during the World War he was in charge of the leper colony in Louisiana.

BOOK REVIEWS

Public Health and Medical Licensure in the State of Mississippi 1798-1937: By F. J. Underwood, M. D., and R. N. Whitfield, M. D. Jackson, Miss., Tucker Press, 1938. Pp. 175.

This volume is a revision of the history of public health and medical licensure in Mississippi, compiled by the same authors in 1930. It brings up to date and makes a permanent record of important events and many of the most important contributors in the public health activities in Mississippi since the formation of the Mississippi Territory in 1798.

For almost three decades health work in Mississippi has stood out as a model to be followed by others, in most respects. This enviable reputation has resulted largely from the influence and leadership of two men, Dr. W. S. Leathers, who became State Director of Public Health in 1910, and Executive Officer of the State Board of Health and Dr. Felix J. Underwood, who succeeded Dr. Leathers in 1924.

Reading of the book from cover to cover should be required of every person in a public health position in Mississippi. It would insure personnel well informed on the problems and the activities which it is their duty to meet and improve upon.

C. C. Bass, M. D.

Hemorrhoids: By Marion C. Pruitt. St. Louis. C. V. Mosby, 1938. Pp. 170. Price $4.00.

Approximately one-third of this volume is devoted to embryology, anatomy, the technic of examination, the instruments used and the types of anesthesia employed in operations for removal of hemorrhoids. It is well illustrated and there are seven color plates which further serve to clarify the text.

In the discussion of anesthesia, caudal and trans-sacral block are only casually mentioned. The author was of the opinion that this type anesthesia was tedious, time-consuming and frequently incomplete. No mention was made that the completeness or incompleteness of anesthesia very often depended on the anesthetist. There are many who regard the combination of caudal and trans-sacral anesthesia as preferable for rectal surgery. The author has had more experience with local infiltration anesthesia and prefers this method to any of the others mentioned.

Considerable emphasis was given to the injection treatment of hemorrhoids. It was mentioned that only the simple uncomplicated internal hemorrhoids were suitable for the injection treatment. Whereas, it was also stated that even the large internal hemorrhoids of the third degree, in which the sphincter muscle is relaxed, are suitable for injection. According to the author, under the above conditions, this latter group was also suitable to the injection treatment.

In considering the surgical management of hemorrhoids, the various methods are described: the ligature operation, the clamp and cautery procedure, Whitehead's operation and the method of excision and suture. The author favored the excision and suture method in preference to the others mentioned.

The choice and evaluation of the many methods of treating hemorrhoids are suggested. As the author stated, "It is not today the question of whether piles can be cured by operative, injection, electric, or palliative treatment. The questions are, what is the comparative value of the various methods, and is one method more suitable for a certain kind of case than another."

The subject of hemorrhoids has been completely discussed in this volume. To complete a collection of books concerning diseases of the rectum and anus this should be included.

Warren H. Hebert, M. D.

On a New Gland in Man and Several Mammals (Glandulae Parathyroideae): By Ivar Sandstrom. Translated by Carl M. Seipel, edited by Charlotte H. Peters and J. F. Fulton; with biographical notes by Professor J. August Hammar. Baltimore, The Johns Hopkins Press, 1938. Pp. 44. Price $1.00.

This small paper, reprinted from the Bulletin of the Institute of the History of Medicine, makes available in English for the first time Sandstrom's announcement of the discovery of the parathyroid glands. The publishers are to be commended for this English translation of the original paper printed in 1880.

Included in this thin volume are a brief biographic sketch of Sandstrom, a review of the history of the parathyroid glands, and excerpts from a letter written by Sandstrom to his sister. This latter pertinently decries the selfishness of the scientific men of his day who were more concerned with the glories of discoveries than with the intrinsic value of the discoveries.

Sydney Jacobs, M. D.

Management of the Sick Infant and Child: By Langley Porter, B. S., M. D., M. R. C. S. (Eng.), L. R. C. P. (Lond.), and William E. Carter, M. D. St. Louis, C. V. Mosby Co., 1938. Pp. 874. Price $10.00.

This volume is divided into sections on symptoms, diseases of all tracts, methods and drugs. It is the most practical and thoroughly up-to-the-minute book that the reviewer has seen. Think of the help to the general practitioner or the pediatrician who has been out of school for a few years, to be able to turn to the chapter on methods and see exactly how to give an intravenous transfusion or the chapter on drugs and find all that is known about sulfanilamide. This is a reference book for the pediatrician and general practitioner and not for the medical student, but I cannot refrain from thinking how he would enjoy the chapter on methods and the detailed explanation of formulae and prescriptions.

Suzanne Schaefer, M. D.

Treatment in General Practice: By Harry Beckman. Philadelphia, W. B. Saunders Company, 1938.

Dr. Beckman has another very valuable edition of his book on therapeutics. He has covered the literature thoroughly, and has brought to the medical student and the practitioner a digest of all that is worth while, both the old and the new, in treatment of disease. He considers himself an editor. Therefore, he does not often give his own personal opinion, but gives both sides of controversial subjects in sufficient detail to give adequate understanding of the problem as it exists today. The result is a very satisfactory statement from which the physician may inform himself, and then use his own judgment in deciding which line of treatment he will adopt in any particular case.

The book should continue to be a favorite both for medical students and for practitioners of medicine.

Clyde Brooks, M. D.

Medical Writings: By Morris Fishbein, M. D., with the assistance of Jewel F. Whelan. Chicago, American Medical Association Press, 1938. Pp. 212.

Medical Writing represents the "gradual evolution of a pamphlet" which subsequently became the Art and Practice of Medical Writing and which now appears much enlarged in size and increased in context. For the reviewer, the older book has become a well worn desk volume. If the new book is as frequently called upon as the old it too will soon become ragged and worn.

Practically every important procedure, method or technic in the preparation of a manuscript is taken up in this book. It tells how to write a paper and how best to prepare it for the editor or publishers. Following completely the style of diction used by the A. M. A. presses, it can be looked upon as thoroughly authoritative. To editors, authors who are doing much writing, or to their secretaries, this book is indispensable.

J. H. Musser, M. D.

Anatomy and Physiology of Physical Training: By Major R. W. Galloway, D. S. O., M. B., Ch. B., R. A. M. C; with an introduction by E. P. Cathcart, LL.D., M. D., D. Sc. Baltimore, William Wood & Company, 1937. Pp. 182. Price $2.50.

This book, while brief, as stated by the author, is quite sufficient to interest and assist those for whom it is primarily intended, namely students and coaches in physical training. I consider the work a superior treatise on this subject and feel that it has a definite place in the physical education department of all high schools and colleges.

Wilbur C. Smith, M. D.

Dextrose Therapy In Everyday Practice: By E. Martin, Sc. D. New York, Paul B. Hoeber, Inc., 1937. Pp. 451. Price $3.00.

This volume, written in fourteen chapters, is a very complete and lucid summary of the literature dealing with the therapeutic indications and the methods of administration of glucose solutions. The therapeutic indications for the administration of glucose solutions lead the discussion to fundamental observations on not only carbohydrate metabolism but necessarily to observations on fat and protein metabolism, salt metabolism and the mass movements of body fluids. Much may be learned from the discussions of the pathologic physiology of a large variety of clinical conditions. Since carbohydrate depletion is so intimately associated with states of dehydration, the mechanism of dehydration and its treatment receive ample consideration.

This book should be a valuable addition to the practitioner's library for it bridges the gap between so-called pure science and the clinical application of well established facts; it is a splendid review of the physiology of metabolism, offers a clear understanding of the pathologic physiology of a large variety of disease states with the rationale of treatment, and with its extensive bibliography (2,000) is a splendid review source.

Samuel B. Nadler, M. D.

Source Book of Orthopaedics: By Edgar M. Bick, M. A., M. D. Baltimore, William & Wilkins Co., 1937. Pp. 376. Price $4.00.

This volume presents a valuable cross section of orthopedic knowledge. The first few chapters deal with the actual development of orthopedics, and the historical features are very interesting. It shows how orthopedics has developed from the parent trunk of general surgery. The major portion of the book deals with the modern period of orthopedics. Physiology, pathology, and methods of practice are dealt with separately. In the compilation of this work a tremendous amount of work has been spent as evidenced by the extensive bibliographic references following each section.

To any one interested in orthopedics this book is of extreme value. Reading through it is like taking a review course of the entire subject.

G. C. Battalora, M. D.

The Infant: A Handbook of Modern Treatment: By Eric Pritchard, M. A., M. D. (Oxon), F. R. C. P. (Lond.). Baltimore, William Wood & Co., 1938. Pp. 744. Price, $6.00.

This volume is delightful reading, but as an actual reference book cannot be strongly recommended. It is interesting to note the English diet and some of the author's daily commendatories for children. The treatment of syphilis, similar to that of Still, and recommended here, is not used extensively in the U. S. We do not value mercury by mouth as highly as does Dr. Pritchard. The treatment of celiac disease, also, varies from the standard of treatment approved in this country. Theoretically it seems correct, but, in practice, the reviewer has never achieved success with this diet. Great stress is laid on the use of vitamins, and correctly, since each day we realize more and more their importance.

S. Schaefer, M. D.

Elements of Orthopedic Surgery: By N. Ross Smith. Baltimore, Wm. Wood & Co., 1937. Pp. 246. Price, $4.00.

This small volume is an outline of the commoner orthopedic conditions. It is divided into eleven chapters and three appendices. It is of value for nurses, physiotherapists and other workers in orthopedic hospitals, but is of little value to practitioners and students. The subject matter is too condensed to be of much practical value.

G. C. Battalora, M. D.

How Ancient Healing Governs Modern Therapeutics: By K. Ligeros, M. D., Ph. D., New York. G. B. Putman's Sons, 1937. Pp. 532. Price $10.00.

This volume affords considerable of interest to students of medical history for it is the first available work in English on Hellenic medicine by an author who traces his descent to ancient Hellas. Arranged in three distinct sections, the development of philosophy, medicine and the related sciences in ancient Greece are presented with ardor, the particular character and individual development of Greek medicine are exhaustively developed, and the work and accomplishments of Hippocrates enthusiastically related.

Several controversial historical problems are rather dogmatically reopened, not without considerable historical and documentary evidence. The author stresses the fact that Greek medicine of the pre-Homeric and of the Homeric era was divorced from religious doctrine and was in the hands of a well organized cult of ethical physicians rather than in the hands of priests and presents the result of much individual research in support of the belief. A marked nationalistic and historic devotion to Grecian ideals and priority is understandably evident throughout the text. For example, (quote, page 155) "If one examines the medical and surgical writings of the Egyptians, he will be convinced that the race contributed little to the main body of medical knowledge. It is the glorious Greek science which forms the base of modern medical procedure."

The chapters devoted to the Hippocratic teachings are replete with much of the contemporary philosophy and are very readable.

The orthopedic surgeon interested in the earliest history of physical and surgical therapeutics will find many sketches on orthopedic procedures which are not far removed from those in common use today.

M. I. Tuchler, M. D.

Vade Mecum of Medical Treatment: By W. Gordon Sears, M. D., M. R. C. P., (Lond.). Baltimore, William Wood & Co., 1937. Pp. 368. Price $4.00.

As used here, vade mecum means constant companion. Truly, the author has written a book on medical treatment that is small enough, and yet quite inclusive, to be easily kept near at hand. The manner in which the book is written makes it of easy reference, since the individual diseases or conditions are arranged for the greater part in alphabetic order. Though dealing only with treatment, there is a scattering of brief statements on etiology and symptomatology, thereby serving to freshen one's memory. Accepted as the author intends it, the book serves its purpose as a brief outline of therapeutic procedures and agents, most of which have been successfully used over a long period.

At the end of the book, the author has inserted a posologic table. The drugs are alphabetically arranged and this affords quick reference for dosage which is given in both empiric and metric measures.

L. A. Monte, M. D.

Papers on Psychoanalysis: By Ernest Jones, M. D., M. R. C. P. (Lond.). Baltimore, Wm. Wood & Co. 1938. Pp. 643. Price, $8.00.

The fourth edition of this work consists in an admirably produced volume of some six and a half hundred pages. It contains an excellent glossary and an index. Twelve new papers have been inserted.

Curiously, the introduction was written in 1918 and the author states that, were he writing it now, he would alter it to the extent of laying stress on the conscious dislike of unconscious impulses and emphasize the deep dread of their power for harm.

The chapters on Freud's Psychology, The Psy-thorough-going understanding of psychoanalytic Hate, Jealousy, Psychoanalysis and Psychiatry, are especially interesting and well written but are not more fundamentally important than the others.

As would be expected of Ernest Jones, a thorough-going understanding of psychoanalytic facts and unconscious motivation is demonstrated.

The volume is a long one and amazingly comprehensive in the knowledge which it displays. It is not a book for the use of dilettante readers, but for the serious student, whether beginner or advanced, it will prove both valuable and attractive.

C. P. May, M. D.

Atlas of Hematology: By Edwin E. Osgood and Clarice M. Ashworth. San Francisco, J. W. Stacy, Inc., 1937. Pp. 209. Price $10.00.

The text of this atlas is written by Osgood and is generously illustrated by Ashworth. The author states that the book is intended for clinicians, students, and technicians, rather than for the hematologist, but, in my humble opinion, it would also be of value to the latter. The first part of the book deals with the identification of cells seen both in the blood and in sternal marrow. These cells are so beautifully and clearly illustrated that one should have little difficulty in classifying any cell seen under the microscope, unfamiliar though it may be to the observer. The author introduces a nomenclature of his own, which is, however, well exemplified by synonyms used by other hematologists.

The cells are dealt with by the various series, that is, lymphocyte, monocyte, granulocyte, plasmocyte, and erythrocyte series. The next chapters are devoted to the parasites of the hematopoietic system. He then classifies the anemias and polycythemias and leukemias. The author presents a number of tables for differential diagnoses, which should facilitate the clinician's recognition of such conditions as splenomegaly, hepatomegaly, and infectious diseases. The appendix is devoted to methods recommended for the study of blood and sternal marrow and particularly those found useful by the authors. Next, and finally, he includes a lengthy list of references to enable the reader to locate original articles for more intricate details. This is an ideal reference book for anyone interested in blood and is recommended particularly to medical students for hematologic studies.

Frank Weitz, M. D.

PUBLICATIONS RECEIVED

P. Blakiston's Son and Company, Incorporated, Philadelphia: Clinical Atlas of Blood Diseases by A. Piney, M. D., M. R. C. P., and Stanley Wyard, M. D., M. R. C. P.

Lea & Febiger, Philadelphia: Electrotherapy and Light Therapy by Richard Kovacs, M. D. Diseases of the Nose, Throat and Ear by William Lincoln Ballenger, M. D., F. A. C. S., and Howard Charles Ballenger, M. D., F. A. C. S. Practical Otology by Morris Levine, M. D., F. I. C. S.

Charles C. Thomas, Springfield and Baltimore: Sulfanilamide Therapy of Bacterial Infections by Ralph R. Mellon, M. D., Dr. P. H., D. Sc. (Hon.), Paul Gross, M. D., and Frank B. Cooper, M. D.

William Wood and Company, Baltimore: The Occupational Treatment of Mental Illness by John Ivison Russell, M. B., Ch. B., F. R. F. P. S. (Glas.), D. P. M. International Medical Annual edited by H. Letheby Tidy, M. A., M. D. (Oxon.), F. R. C. P., and A. Rendle Short, M. D., B. S., B. Sc., F. R. C. S. An Introduction to Bacteriological Chemistry by C. G. Anderson, Ph. D. (Birm.), D. Bact. (Lond.).

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THE RELATIONSHIP OF DENTISTRY TO MEDICINE*

VERY REV. HAROLD A. GAUDIN, S. J.†
NEW ORLEANS

In speaking to the Orleans Parish Medical Society as a layman to medicine and dentistry but as President of a University which embraces a Dental School I am not going to ask medical men to admit dentists to their fraternity but shall merely point out the relationship that exists between doctor and dentist in the cause of health.

The dentist is not a medical specialist as is the specialist of the eye, ear, nose, and throat. Neither organized dentistry nor organized medicine would ever make him so. To superimpose complicated digital facility in intra-oral procedures on a conventional medical curriculum would make dental training prohibitive in length to most general practitioners. Nor could there be in regard to the teeth a stomatologist and a dental technician as in regard to the eyes there is an oculist and an optometrist. The latter, given a prescription, grinds lenses with machines and adjusts them easily, whereas the supposed dental technician even with the prescription from a medical stomatologist would be unable to do his work without comprehension of the variable biologic conditions involved. I think I speak truly when I say that dentistry will never be a specialty of Doctors of Medicine. However, it is significant to note the increasing discoveries of the relationship of oral conditions to the general condition of patients and it is interesting to recall that in the history of medical progress until the public appreciated the precise knowledge of anatomy needed in surgery, physicians looked down upon surgeons as mere handworkers and artisans, rightly to be denied the studies of a medical school. Of the future we cannot be sure.

But we deal with the present, and in regard to the present I wish to recall briefly the relationship of oral diseases to the patient's general condition. I shall then recall briefly the medical training of the dental student in order to say that in the service of health the medical man and the dentist have many things in common about which they can and do confer for the good of their respective patients.

In dealing with systemic diseases whether it be their diagnosis, prevention, or remedy that can be effected by the dentist, I approach the subject humbly. If I spoke of granulomas, arthritis, duodenal ulcers, focal infections, fractures of the jaw, oral cancers, or relation of oral sepsis to systemic disease and other such things which I read with interest if not understanding from a paper written by Dr. Nix and read by him over a Chicago radio station last fall, I fear I should be not unlike dear old Father Chianale, one of my philosophy teachers in Gonzaga University who used to say in his repertoire he had three kinds of lectures: one hundred dollar lectures, fifty dollar lectures and twenty-five dollar lectures. In a twenty-five dollar lecture both he and his auditors knew what he was talking about. In a fifty dollar lecture only he. In a hundred dollar lecture neither he nor his auditors knew what he was talking about. If I talked about such things as I mentioned before I am afraid only my auditors would know what I was talking about.

I merely mention them, or rather a part of them, in order to remind you that dental disorders are directly related to the general health. I might further the point by quoting Charles Mayo to the effect that "the next great step of medical progress in preventive medicine rests with the dentists."

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*Address delivered to the Orleans Parish Medical Society, January 10, 1938.

†President of Loyola University, New Orleans.

As to the function of dentists and their knowledge, of course the dentist is still a worker with his fingers as are surgeons, still uses his skill in restoring lost tooth structure or by artificial appliances replaces their loss. However, he who thinks of the dentist only as a mechanic is little acquainted with the standards of education reached by dental schools today. In regard to the persistent advance of dental schools in increasing their cultural entrance requirements and greater insistence on fundamental medical knowledge, Dr. Cutting, Secretary of the American Medical Educational Council, at Louisville in March 1936 at a meeting of the American Association of Dental Schools in praise of advance made by such schools and in this respect comparing dental schools with medical schools said: "If the need of medical men was as great as the need of dentists and if medical students were as scarce as dental students, medical schools would lower rather than raise their standards."

Today two years of college are required for entrance into standard dental schools, the same as for minimum entrance requirement into medical schools. Moreover, in dental schools the curriculum for the first two years closely parallels the curriculum of medical schools. Comparable courses are given in the fundamental medical subjects. From this I do not conclude that dentists are trained for the practice of medicine; nevertheless if any medical man would think that the dentists of today are unable to confer with him for the general good of his patients he is unscientific.

Medical and dental literature are replete with instances of the dentists' contribution to the art of healing and of the necessity of consultation between the dentist and physician. Dr. Morton, a dentist of Boston, first demonstrated the possibility of using anesthetics for all operations. Fractures of the jaw have passed from the general surgeon to the dental surgeon. Correction of cleft palates and harelips is done both in dentistry and medicine. In the treatment of oral cancer a dentist is indispensable. No medical examination is complete until the patient has been checked by a dentist; no clinic or hospital is properly staffed without a proportionate quota of dentists.

As an instance of the field opened to dentists today I might remind you of Dr. Truman Brophy, President of the Chicago College of Dentistry, and later dean of the Dental Schools after the College was absorbed by Loyola University of Chicago. Of him the master surgeon Dr. J. B. Murphy said: "He had thoughts sublime that pierced the night like stars and in their mild persistence led men to vaster issues."

From all of this I conclude that in the service of health the medical man and the dentist are brothers who must lean more and more on each other if their work for their patients is to have a conscientious, happy outcome.

HISTORY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY IN AMERICA

WITH SPECIAL REFERENCE TO LOUISIANA AND MISSISSIPPI*

CHARLES A. McWILLIAMS, M. D.
GULFPORT, MISS.

While the birth of otolaryngology is usually dated from the discovery of the laryngoscope in 1855 by Garcia, a Spaniard living in England, the beginning of this specialty in this country dates well before this epoch-making event.

The golden age of ophthalmology was inaugurated by Helmholtz's invention of the ophthalmoscope in 1851 and the publication of his book with the description of an optical instrument by which it is possible in the living to see and recognize exactly the retina itself and the image of luminous objects which are cast upon it. Later, Wadsworth, of Boston, and Dennett made improvements which greatly increased its usefulness. George Frick of Baltimore in

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*President's address presented before the Louisiana-Mississippi Ophthalmological and Otolaryngological Society, New Orleans, April 30, 1938.

1818 was the first American doctor to limit his practice to ophthalmology. In 1823 he published the first American book on ophthalmology entitled "A Treatise on Diseases of the Eye, Including the Doctrine and Practice of the Most Eminent Modern Surgeons and Particularly Those of Prof. Beer."

The first hospital for eye diseases was the New London Eye Infirmary, New London, Connecticut, established in 1817. The New York Eye and Ear Infirmary was opened in 1820. Horace Green is known as the father of American otolaryngology. He located in New York City in 1835. Few men have been more bitterly assailed for his teachings which were in advance of his generation.

In 1828, Physick, of Philadelphia, published a description of the tonsillectome which bears his name. At this time and for a long time afterward the specialty of otolaryngology was generally regarded as twin brother of ophthalmology and remained so until very recently.

The American Ophthalmological Society was founded in 1864. At first otologic subjects were discussed at the meeting but it was soon found this arrangement was not satisfactory and in 1868 the American Otological Society was founded. The American Laryngological Association followed in 1878. The limitation to membership in these two national societies made it impossible for many to become members, so the American Laryngological, Rhinological and Otological Society was founded in 1895. This society was founded in the office of Robert C. Myles of New York City. Myles was born in Cove City, Mississippi, and graduated in medicine from the University of Louisiana in 1876. In 1887 he assisted Marell Mackenzie of London in his famous operation upon the Crown Prince Frederick William of Germany. He presented, in 1893, the first paper in this country on diseases of the nasal accessory sinuses.

The American Academy of Ophthalmology and Otolaryngology was organized in 1896 in Kansas City.

In New Orleans, Bolling A. Pope was a pioneer in ophthalmology. I have been unable to get the year of his entry in special practice but he was selected chairman of the Section of Ophthalmology of the American Medical Association in 1879. Oscar Long was a contemporary of Pope and began practice in 1884. Edward Wynn Jones graduated from Tulane in 1882 and was appointed lecturer and clinical instructor in diseases of the eye and ear at Tulane from 1892 to 1905. Sterling D. Kennedy was appointed lecturer in diseases of the eye and ear at Tulane University, April 12, 1884 and resigned in 1890. A. W. DeRoaldes and S. D. Kennedy organized the New Orleans Eye, Ear, Nose and Throat Hospital, July 15, 1889.

While the general opinion is that DeRoaldes was the first in New Orleans to limit his practice to otolaryngology, I find this is not true. He did some special work but only limited his practice to otolaryngology when he returned from Paris in 1890. Otto Joachim, a native of Issaquena County, Mississippi, after interning at Touro Infirmary from 1884 to 1886, spent two years in Berlin, Heidelberg and Vienna and returned to New Orleans in 1888. He has limited his practice to otolaryngology since 1888. Joachim established the Ear, Nose and Throat Clinics at both Charity Hospital and Touro Infirmary.

However, DeRoaldes as head of the Eye, Ear, Nose and Throat Hospital deserves much credit for the training of many of our noted specialists of the South. For this reason, he is often spoken of as the father of otolaryngology in New Orleans. He was the first to bring diphtheria antitoxin into the United States and successfully demonstrated its efficiency at the Eye, Ear, Nose and Throat Clinic. He inaugurated the ambulance service and introduced trained nurses at Charity Hospital. In looking over the transactions of the Eye, Ear, Nose and Throat Hospital we find that C. A. Thigpen of Montgomery, Alabama, and C. J. Landfried were clinical assistants in 1890 to 1892. The latter entered practice in 1896. When Kennedy died in 1892, Henry Dickson Bruns was appointed chief of the eye service.

E. A. Robin was called to the position of First Assistant Surgeon in the eye department in the Eye, Ear, Nose and Throat Hospital in 1895 and was elevated to surgeon in charge in

1914. Gordon King, after graduating from Tulane in 1897, was associated with DeRoaldes in practice. He was elected chief of the eye, ear, nose and throat service in 1900. Homer Dupuy was trained at the Eye, Ear, Nose and Throat Hospital and began practice in 1899. He was noted for his pioneer work with cancer of the upper jaw. Marcus Feingold graduated from the University of Vienna and came to New Orleans in 1897. He became professor of ophthalmology at Tulane in 1906 succeeding W. W. Jones.

R. C. Lynch returned from abroad in 1907 and early in his career as a specialist was associated with the late DeRoaldes and at the death of the latter he was named surgeon in charge of the hospital. As his candidate's thesis before the American Laryngological, Rhinological and Otological Society in 1914, he read a paper on suspension laryngoscopy which established his position for all time. He became a nationally known figure in otolaryngology and, as a teacher while head of the Eye, Ear, Nose and Throat Hospital, did much to put New Orleans and the hospital to the front.

Victor Smith began practicing ophthalmology in 1905 and Henry Blum in 1906, in New Orleans. C. W. Loomis was the first specialist to locate in Lake Charles. He located there in 1895. Oscar Dowling received his training at the New Orleans Eye, Ear, Nose and Throat Hospital in 1897 and 1898 and moved to Shreveport. George Willis Robinson, who took his training at the Manhattan Eye and Ear Hospital, located there about the same time and most probably was there before Dowling. I have been unable to get the exact date. Just a year or so afterwards G. C. Chandler located in Shreveport. Dowling was appointed a member of the State Board of Health in 1906.

J. A. Caruthers was the first specialist in Baton Rouge. He located there in 1900.

In Mississippi, W. S. Sims is the recognized pioneer in this field of practice. He located in Meridian as a specialist in 1884 and remained there until 1898 when he moved to Jackson after having been appointed Superintendent of the Blind Institute. He was relieved by R. S. Curry some years later. C. A. Barber was associated with Sims for some time but he later moved to Hattiesburg.

George L. Izard located in Meridian in 1892 but after a few years moved to Mobile, Alabama.

Andrew Jackson Nabors was practicing in Corinth from 1892 to the middle of 1894 when he moved to Hot Springs, Arkansas. He was followed by W. A. Johns who began practicing special work in 1898.

Clement French was the first specialist in Natchez, locating there in 1893. R. D. Sessions limited his practice exclusively to this field from 1894 to 1907 but now does general surgery.

In the middle nineties, about 1896, Alex Mitchell specialized in eye, ear, nose and throat in Vicksburg. He remained there until 1901. Eugene Crowther located there in the middle nineties and practiced until 1910. He moved to Yazoo City where he is now living. Chris Mengis was there from 1902 to 1905. H. M. Bell located there in 1902 and limited his practice to ophthalmology.

W. L. Howard located in Greenville in 1906, limiting his practice, and in 1912 moved to Memphis. In Hattiesburg, John R. Jackson located there in 1900. J. W. Scales was the first to practice in Laurel, locating there in 1903. D. G. Mohler was the first specialist in Gulfport, having located there in 1905.

SUMMARY

Since no previous record has been made of the first eye, nose and throat specialists of Louisiana and Mississippi, I thought that it would be of interest to the members of our society to present this paper so that a permanent record may be made. There are possibly some mistakes as it has been very difficult to gather these data.

ACUTE AND CHRONIC BACILLARY DYSENTERY*

THEIR RELATIONSHIP TO MANY OBSCURE FORMS OF COLITIS AND ENTERITIS*

JOSEPH FELSEN, M. D.

NEW YORK, N. Y.

There is perhaps no more fertile field for medical study today than intestinal disease of infectious origin. A world wide survey which is now almost complete reveals several amazing facts. First, there is a high incidence of diarrheal disease in both tropical and non-tropical regions with a mortality ranging from 6.4 per cent in New York[1] for proved cases of bacillary dysentery to 37.4 per cent in Georgia.[2] Second, the general terminology of "diarrhea and enteritis" used by our public health agencies is a frank admission of our ignorance concerning their cause. Third, with increasing knowledge of intestinal disease in recent years, careful studies in various parts of the world have shown that a high percentage of these cases are due to bacillary dysentery.[3-7]

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 4, 1938, at New Orleans.

RECOGNITION OF THE DISEASE

Since recognition of the disease is the first important step in its control I propose to describe briefly the new and atypical forms of acute bacillary dysentery. By way of introduction, it may be stated that the incubation period can be as short as 12 hours. The Duval type of bacillary dysentery,[8] originally described by Duval in 1904,[9] has in recent years attained increasing significance because of its wide prevalence. In New York State, exclusive of New York City, the incidence rapidly rose from no outbreaks or cases in 1932 and 1933 to seven outbreaks and 220 recorded cases in 1937. The striking clinical feature in the past has been the rather mild nature of the symptomatology.

In institutional outbreaks, affected children often have little or no indisposition, but frequent bloody bowel movements. I would leave this prevalent clinical impression with you, but for the disturbing experience that in the past few years some of the severest cases of acute bacillary dysentery have been of the Duval type. The practical implication is not to disregard carelessly an outbreak because of the presumed mildness of the disease. The mortality incidence may rise without warning. Many of these features have been stressed by Silverman[10] and others.

TYPES OF DYSENTERY

The appendicular form of bacillary dysentry[11,12] is ushered in by colicky abdominal pain localized to the right lower quadrant and accompanied by anorexia, lassitude, headache and vomiting. There is a moderate pyrexia of 101 to 102° F. Tenderness may be elicited at McBurney's point and tends to shift with changing position of the body. Spastic ileum or sigmoid may be felt through a thin abdominal wall. This is an important diagnostic feature because in acute bacillary dysentery spasm in these regions occurs early and persists for some time. Enlarged mesenteric or epicolic lymph nodes may be felt at or near the ileocecal angle. A history of diarrhea is helpful in reaching a diagnosis, particularly if mucus and bright red blood have been present. In some instances, appendicular symptoms occur on or about the sixth day when diarrhea is no longer a prominent feature. The leukocyte count may be normal or there may be an actual leukopenia. When the diagnosis of bacillary dysentery has been overlooked or is in doubt, the patient is promptly operated upon. The usual findings are a normal appearing appendix, but a rather mystifying mesenteric lymphadenitis. There may also be seen an acute inflammation of the distal portion of the ileum which varies in its extent from 3 to 30 cm. The wall is thickened, edematous and reddened and the vascular arborizations stand out prominently. The zone of inflammation is of a sharply segmental nature, being clearly demarcated from contiguous normal intestine. The regional mesenteric nodes appear pinkish and succulent. Resection of the affected ileum is apt to be followed by peritonitis and death. Appendectomy may result in a persistent fecal fistula. It is, therefore, advisable in patients having the appendicular form of bacillary dysentery with acute distal ileitis to close up the abdomen without attempting either resection of the ileum or appendectomy. Follow-up studies have shown that in most instances the condition subsides with complete restoration to normal within a few weeks. A small percentage of cases develop the chronic form of distal ileitis.

The meningitic type of bacillary dysentery[13] constituted 13 per cent of the hospitalized cases in the Jersey City Flexner epidemic of 1934. It is characterized by an onset quite typical of meningitis. The neck is rigid, positive Kernig and Brudzinski signs are present and, in some instances, photophobia. Headache, vomiting, convulsions and drowsiness or stupor are prominent symptoms during the first 24 hours after which the typical enteric manifestations of acute bacillary dysentery occur. Spinal tap during the meningitic phase reveals a clear spinal fluid with normal cytology, positive sugar and negative globulin tests. Of particular interest is the presence of labial or nasal herpes in every case of this group. It suggests the presence of a virus in association with the neurotropic dysentery toxin.

The agranulocytoid type of bacillary dysentery[14] is characterized by a peculiar blood picture and typical intestinal manifestations of severe dysentery. There is a progressive toxic neutropenia with fatal termination in our small series of cases within five weeks. The total leukocyte count may fall below 100 cells per cu. mm. with 2 to 10 per cent of granulocytes which exhibit varying degrees of toxic degeneration. Bone marrow sections show no evidence of deficient cell production so that the action of the toxin is either on the granulocytes in the peripheral blood or on the sinusoids of the bone marrow preventing cell migration.

The pneumonic type of bacillary dysentery[15] is characterized by a short prodromal period of rather indefinite symptoms suggestive of "grippe" such as malaise, headache, anorexia, muscle pains or "body aches". This is followed by a chill with sharp rise in temperature which may reach 105° or 106° F. There are marked prostration, flushed cheeks, a rapid pulse and short non-productive cough. Moist rales are heard at the end of inspiration and persist after coughing. A roentgenogram taken at this stage in one instance revealed a localized area of increased density corresponding in its location to the auscultatory signs. In approximately 24 hours,however, the pulmonary signs and symptoms subside and are replaced by the typical intestinal manifestations of acute bacillary dysentery which dominate the clinical picture until the termination of the disease.

ASYMPTOMATIC, AFEBRILE AND CONSTIPATED FORMS OF BACILLARY DYSENTERY

These paradoxical types are considered together because their diagnosis is generally possible only during epidemiologic surveys. It is surprising during outbreaks how many patients exhibit the successive stages characteristic of the bowel pathology of dysentery and yet are comparatively asymptomatic, afebrile or actually constipated. These changes have been noted by the liberal and repeated use of the sigmoidoscope without which many would have undoubtedly escaped detection. These patients are not healthy carriers since the specific organisms disappear from the intestine within the usual time, there is a *rising* agglutination titer and the pathologic lesions disappear in one or two weeks. It is this bizarre group of patients which is frequently responsible for the spread of the disease and for its endemic perpetuation. In acute bacillary dysentery, therefore, every contact should be examined and cultured.

PATHOLOGY OF BACILLARY DYSENTERY

There is a characteristic three stage intestinal pathology[16] in the typical case of acute bacillary dysentery. In stage one or the stage of punctate follicular hyperplasia, the lymph follicles stand out as pinhead-sized elevations on a reddened mucosal background. In about 24 hours the center of each lymph follicle becomes necrotic and there is beginning ulceration of the overlying mucosa. This constitutes stage two or the stage of punctate follicular necrosis. On or about the third day the ulcerations become confluent or enlarging, remain discrete—the third stage of discrete and confluent ulceration. Healing is not synchronous with the cessation of diarrhea. It occurs rapidly during the post-diarrheal period of constipation when nature appears to be splinting the bowel to favor repair.

DIAGNOSIS OF ACUTE BACILLARY DYSENTERY

The diagnosis of acute bacillary dysentery is based on clinical symptoms and signs supplemented by laboratory studies. The typical case may be described as follow. After a prodromal period of malaise, headache, anorexia or nausea there occur abdominal cramps which are diffuse or most marked in the right lower quadrant. Diarrhea ensues and increases in intensity with a corresponding rise in severity of the colic and tenesmus. Spastic ileum or sigmoid may be palpated through the abdomen and sigmoidoscopic examination reveals a characteristic pathology. Fecal cultures are generally positive early in the disease while diagnostic bacteriophage and a rising agglutination titer occur later. Smears of the mucosal exudate reveal a high proportion of polymorphonuclears and some large mononuclears and macrophages.

TREATMENT OF ACUTE BACILLARY DYSENTERY

Preventive Measures. Since the dysentery organism always originates in the intestinal tract of one person and is transferred to the mouth of another, the hygienic and sanitary problem is obvious. It is essentially a public health question requiring educational and legislative approaches. I wish merely to refer to the use of vaccination and prophylactic serum therapy. Repeated intravenous injections of dysentery organisms into rabbits or intraperitoneal injections into white mice, in non-lethal doses, make them refractory to subsequent infection by the same or more toxic strains. An analogous situation in humans was presented during the Jersey City epidemic of Flexner dysentery in 1934. The major epidemic subsided by about August 20, only to recur among newly returning vacationists in early September. It was quite apparent that the secondary rise was confined chiefly to the non-immunes. At the present time the principle of active immunization is being applied under careful control conditions to 1500 patients at Letchworth Village, N. Y., where Flexner dysentery is endemic. With regard to the prophylactic use of antidysentery serum, I have been able to demonstrate its protective value in white mice with a degree of permanence compatible with its effective use during outbreaks. Davison[17] used it successfully during an epidemic of Shiga dysentery in 1936. In this connection the prophylactic use of human serum from recovered cases will also be found very efficacious.

Therapy. Since acute bacillary dysentery is usually a self-limited disease, our efforts should be directed at neutralizing and eliminating the toxin as quickly as possible and combatting the toxemia, dehydration and acidosis by appropriate methods. To accomplish these purposes we advocate the early and judicious use of castor oil, large quantities of antidysentery serum within the first 24 to 48 hours, absolute rest, the liberal imbibition of water or its administration intravenously as 5 per cent dextrose in saline and, in severe cases, blood transfusion using wherever possible recovered cases of dysentery as donors. The R B T (rice-banana-tea) diet consists chiefly of rice water or strained gruel, ripe bananas and strong tea. It may be supplemented by egg albumin, water and strained oatmeal gruel sweetened with lactose. After the intestinal symptoms have subsided, the diet is gradually increased, our chief guide being sigmoidoscopic evidence that the ulcers have healed.

CHRONIC BACILLARY DYSENTERY

Some years ago, led on with a curiosity incited by epidemiologic and laboratory evidence in a few cases of chronic ulcerative colitis, I endeavored definitely to establish the presence or absence of a relationship between this disease and bacillary dysentery.[18] Clinical observations by Gemmel, Wilks and White during the latter part of the nineteenth century and more recently by Silverman, Hurst, Castellani, Thorlakson and others stressed the strong possibility of this relationship. The long hoped for opportunity was presented in 1934 during the Jersey City epidemic of Flexner dysentery. Of 210 patients hospitalized at the Medical Center, 122 were followed up for 9 to 12 months.[19] Of these, 10.7 per cent or approximately one out of ten, presented unquestioned evidence of chronic ulcerative colitis or distal ileitis. In 37.7 per cent of the 122 cases there were persistent or recurrent signs of diarrhea, watery in character or mixed with blood and mucus. It may be readily surmised from this brief resumé how patients first seen some time after an outbreak with bizarre intestinal symptoms might be classified simply as cases of enteritis or colitis without regard to the actual pathogenesis. This is particularly true of those who were not studied during the acute phase or who never sought medical attention. The details of subsequent studies indicating the common pathogenesis of chronic distal ileitis, ulcerative colitis and bacillary dysentery are presented elsewhere. Suffice it to state that the chronic lesions merely represent a perpetuation of those seen in the acute phase with secondary changes incident to chronic nonspecific inflammation. In a survey now being completed there is rapidly growing scientific evidence from all parts of the world to the effect that a large proportion of poorly defined cases of "colitis", "enteritis", "diarrhea" or "dysentery" are really bacillary dysentery.

SUMMARY

I have purposely stressed the new and atypical forms of acute bacillary dysentery because recognition of the disease is essential before it can be controlled. Careful studies reveal that both in the acute and chronic phases bacillary dysentery is a disease which, because of its protean character often escapes detection. The rising tide should merit our serious consideration before it overwhelms us and results in unnecessary illness and deaths. There is little excuse for the wide prevalence of this disease in our country with its presumed hygienic and sanitary facilities. The solution lies in the prevention of acute bacillary dysentery for which certain constructive measures have been suggested.

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DISCUSSION

Dr. D. N. Silverman (New Orleans): Great credit is due Dr. Felsen for having pointed out the protean manifestations of bacillary dysentery infections. It is a great source of satisfaction to me that he showed how true my prediction was 14 years ago, that unless bacillary dysentery in the South was controlled, its dissemination would produce epidemics throughout the country.

We are greatly pleased to hear that now the lactose fermenter rightfully is called the "Duval bacillus," because to him is due credit for its discovery as far back as 1904.

Many cases of bacillary dysentery go undiagnosed because of the great prevalence today of this particular problem. When the blood serum is tested, as is the usual form of diagnosis, in the laboratory, it is matched against strains of Shiga, Flexner, and Hiss, and no attention is paid to the lactose fermenter which is so prevalent.

The question Dr. Felsen brought up, namely, the association or relationship between bacillary dysentery infection and these pathologic pictures we see in the small and large intestine, is well made. Mackie, as far back as eight or nine years ago reported 40 cases of ulcerative colitis that showed dysentery organisms.

It has been my unfortunate privilege to have seen several cases of definite, acute perforation of the colon due to bacillary infection when the individual has bacillary dysentery, and the symptoms had not been pronounced. You cannot trust it no matter what the symptoms are. In some cases, a sudden acute surgical abdomen will turn up which has existed during a period of months, as was the case in two of my patients without symptoms.

I was very much interested in the relationship of some of the manifestations of the disease in organs distant to the intestine in primary infection. I pointed out for the first time four years ago that some conditions, such as arthritis, myocarditis, and in some instances, irregular function of the muscles, are not due to metastasis of the organism but to allergic manifestations of the individual, constitutional hypersensitiveness to this organism, affecting the patient. And that is my point today. We must be careful as to the treatment of these patients who are hypersensitive to the organism, with particular reference to the use of vaccine. It is my habit to take care and when injecting the vaccines first to dilute very high. If the patient shows no reaction when the vaccine is diluted, I can inoculate then. Be careful that alarming symptoms, such as fainting, a drop in the blood pressure, do not occur from use of vaccines.

Dr. George F. Fasting (New Orleans): I have had the opportunity to read and study quite thoroughly Dr. Felsen's publications and they warrant a detailed study by any one who wishes to be informed on bacillary dysentery. The particular feature, I think, is his case presentations and pathologic reports, because they contribute very much, not only to the study of acute bacillary dysentery, but also bridge the gap into chronic manifestations of colitis.

There are many things in his publications, and also his statements with which I am at variance. There is a phase of his work which is of interest, but on which he has spoken less, the so-called asymptomatic form. He reports 90 per cent spontaneous recovery in acute cases. This may be true, but I doubt it. I believe if we could observe a number of these patients later, we would see significant changes and symptoms traceable to this particular disease.

This so-called asymptomatic form is very interesting to me and I think quite important in New Orleans, if not in the State of Louisiana. In the past five years, we have had no recognized epidemics in New Orleans or Louisiana, though we have had typhoid and paratyphoid. We have had throughout the year sporadic cases of bacillary dysentery in patients who presented themselves at different hospitals. Apparently that would seem to indicate carriers of bacillary dysentery in the city, but this does not become evident if one adopts the macroscopic method of agglutination. We do not use that method at Charity Hospital. We have a more sensitive method. Our observations include agglutinations against other organisms. We are able to detect a very high percentage of cases that must have been infected with bacillary dysentery of some kind or another. Many of these cases have been sent in by physicians from other hospitals on the assumption of undulant fever. I think you will find that many cases suspected of undulant fever, when the report comes back negative by agglutination, will be bacillary dysentery. But I doubt seriously the obtaining of bacillary dysentery diagnosis by the macroscopic method.

The high incidence of bacillary dysentery which we surmise to exist in more or less chronic form, we believe confirmed by agglutination technic and by encouraging therapeutic results.

I think the asymptomatic form of bacillary dysentery Dr. Felsen so rightfully speaks of, is far more prevalent than any of us are aware. This brings us to another problem; Where does the infection come from? Many patients cannot recall having had a disease like dysentery or serious intestinal disturbances.

The problem, from a public health standpoint is going to be difficult, and not so easy as suggested, particularly by Drs. Felsen and Silverman. It is easy enough to say: "detect it at the source"; but, show me a technic that will be adequate to demonstrate or to find carriers. To give these patients acidophilus milk for three weeks is expensive. The procedure proves one important point, that the bacillary dysentery organism must exist locally in the intestinal tract and will be brought to the surface at a certain date by a given diet. I think it is rather an expensive and laborious procedure to have to wait three weeks before the dysentery organisms come through.

I have a series of questions for Dr. Felsen that I want to read: (1). Have you any clinical evidence that "high titer anti-dysentery serum" is of value?

2. You have suggested for transfusion of severely ill patients the use of blood from "donors with high diagnostic titers for bacillary dysentery". Are not such donors to be considered as afflicted with infection of the dysentery group?

3. Are you satisfied with the diagnostic sensitivity of your macroscopic agglutination method?

4. What agglutination titers for undulant fever, typhoid and paratyphoid does the blood exhibit, that have agglutination for the dystentery group in 1/100?

5. Have you a satisfactory laboratory procedure for establishing dysentery carriers in food handlers?

Dr. Felsen (In conclusion): I shall endeavor to answer Dr. Fasting's queries.

First, as to the value of high titer anti-dysentery serum. In my opinion there are two requisites for an effective therapeutic serum in bacillary dysentery. It must have a high antitoxin content and it must be used within the first 24 to 48 hours of the disease.

Second, as to the use of recovered cases as donors. In sporadic or epidemic outbreaks there is nearly always an adequate supply of such donors available. The whole blood or serum may be used either for prevention or therapy. The prophylactic use of such serum is invaluable for new born infants and babies since they receive no protection from the mother. There is no appreciable placental transmission of agglutinins from the mother to the new born infant. Outbreaks may be quickly terminated in this manner, particularly because of the antigenic specificity necessarily responsible for this type of anti-serum. Where recovered cases are not available, polyvalent commercial anti-dysentery serum may be used for prophylactic purposes. Where the time factor permits, a high titer serum may be quickly produced in rabbits. In any case, the serum is administered subcutaneously ten to twenty cubic centimeters to babies and larger quantities to older children and adults.

Third, as to the diagnostic sensitivity of the gross agglutination test, using eighteen hour broth cultures four hours incubation at 55° C. and ice box overnight. We use this method exclusively since our readings err on the side of conservatism. In many instances check readings by other methods have given titers twice as great.

Fourth, as to carriers in bacillary dysentery. Every carrier in this disease is a sick carrier, a point which can be readily shown by complete clinical, sigmoidoscopic and radiographic examinations.

Lastly, as to the crypt aspiration—spray culture method. This examination is carried out under direct vision through the sigmoidoscope. We believe that in many instances the dysentery organisms lodge deep in the crypts of Lieberkuhn. By aspirating the crypts and spraying the material directly on an Endo plate our percentage of positive cultures has risen appreciably.

RECENT PROGRESS IN THE DIAGNOSIS AND TREATMENT OF GASTRIC AND DUODENAL ULCER*

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and
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A little over a century ago (1829-1835) Cruveilhier first recognized gastric ulcer as a typical, well characterized disease form. Since then medical writers have attempted to throw light on the puzzling phenomena of the disease —its origin and its slow healing process. A formidable volume of literature on the subject has been accumulated. Fogelson[1] states that approximately one thousand new articles on gastroduodenal ulceration appear yearly in the literature, but in the words of Moynihan[2] "unhappily its value is by no means proportionate to its bulk." We therefore step into the field reluctantly to add a mite of information from the age-old book of experience.

DEFINITION

The question is often asked—why does not the stomach digest itself when, as we know, the stomach is able to digest raw meat? Moynihan[3] propounds another question, thus: "The epithelial cells of the stomach are born, reared, and grow constantly in an acid medium; why should they all of a sudden lose that inherent wonderful quality and be afraid of an acid?" One answer seems to furnish a satisfactory reply to the above question, i. e., as long as the proper amount and quality of nourishment is being regularly furnished to the cells and they are at the same time being protected by a sufficient amount of pure mucus, they are not afraid of an acid and pepsin, but let them be deprived of nourishment and protection for a certain period and the digestive elements of the gastric juice will attack and destroy them. The definition then of an ulcer can be rendered thus: a self-digestion of a part of the stomach or duodenum, esophagus or jejunum, as the case might be. This brings us to the discussion of factors.

ETIOLOGY

The etiology of gastroduodenal ulcerative disease is still a speculative matter. McClure of Boston[4] once remarked that there is perhaps no field in medicine more burdened with unproved theories than that of the diseases of the gastrointestinal tract. The above statement is particularly true in regard to the etiologic studies of gastroduodenal ulcer. Numerous theories have been advanced by various authors; some were based upon what appeared to be conclusive experimental data. The following are the theoretical assumptions regarding ulcer etiology: Constitutional make-up; focal infection; neurogenic factors; the inherent defense and healing properties of the organism; the influence of hot and cold food; alcohol and tobacco irritation; overindulgence in food; capillary stasis of the gastric mucosa followed by erosion; toxic, climatic and racial causes; local disease of the blood vessels; arteriosclerosis; embolism and thrombosis; excessive carbohydrates and lack of vitamins in the diet; disturbance in the mechanics of the stomach; pylorospasticity leading to local necrosis; disproportion between the acidity and alkalinity of the gastric and duodenal juices; deficiency of antipepsin; food allergy; and the erosive action of the gastric juice. The bulk of recent experimental evidence favors the acid erosive theory; thus, one or more of the above mentioned factors prepare the soil by lowering the physiologic resistance of the cells; then the unbuffered, unneutralized gastric juice assumes the primary role in the production of an ulcer. Sippy[5] was its staunchest supporter. Hurst and Stewart,[6] Mann,[7] Ivy and Dragstedt,[8] and others share the same view. We are all undoubtedly familiar with the surgical experiments on animals aiming at diversion of the alkaline, biliary, and pancreatic juices. An ulcerative lesion invariably develops, grossly and microscopically very similar to that found in man. When the provocative gastric juice is diverted or neutralized the ulcer promptly heals. When coarse foods are fed to the animals operated on, it tends to increase the rate of ulcer formation, and to make the ulcer prone to perforate. This confirms the assumption that mechanical irritation is an important factor. It is universally admitted that the neurotic, worrisome, emotional, and hardworking person is most likely to develop gastric or duodenal ulcer.

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Ulcers of the stomach and duodenum are fundamentally alike, according to Sippy[5] and others. Such differences as exist are due very largely to the complications peculiar to the stomach and duodenal location of the ulcer. A transition from a benign state to malignancy is not uncommon in gastric ulcer, while the duodenal lesion is seldom if ever transformed into a malignant state. Duodenal ulcer is more frequent in men, three or four times, while gastric ulcer is more common in women. No age is exempt, it having been described even in infants, however, the disease occurs mostly between 18 and 45 years of age.

SYMPTOMATOLOGY

The subjective symptoms of ulcer are not always clean-cut; the definite classical pattern is not always present. We must agree with Crohn[26] who states, "the recital of the clinical course of an ulcer patient varies greatly according to the pain-sensitivity of the afflicted individual. The hypersensitive complains of continuous symptoms; the normally sensitive allows us to plot a curve of the ulcer activity; and the subsensitive or insensitive does not complain until it is almost too late." We favor the classification of ulcer cases into two main groups, thus: (1.) The definite classical pattern; (2.) the bizarre and puzzling, difficult to analyze and evaluate.

In group one the ulcer discomfort runs a course as follws: At first there is a vague dyspepsia-like distress, unrelated to eating or to anything else the patient may do. After weeks or months the discomfort is transformed to pain which appears at definite times. There are three types of ulcer pain: early pain which immediately follows feeding; late pain which arises one to three hours after a meal; and hunger pain which occurs on an empty stomach and disappears after renewed ingestion of food. This relationship between pain and the filling of the stomach is extremely characteristic of gastric ulcer and the patient should therefore be questioned carefully with regard to it. The intensity of the pain is not necessarily related to the size of the ulcer. The pain does not set in with full intensity but develops gradually. Moynihan[9] calls it the rhythm of the pain. In cases of gastric ulcer, the pain after an interval follows the taking of a meal, gradually disappears before the next meal. In cases of duodenal ulcer, the pain continues until the next meal. The gastric rhythm is "food, comfort, pain, comfort." The duodenal rhythm is "food, comfort, pain." The pain may appear for months with clock-like regularity in relation to eating. It may then disappear for a long period by the aid of some treatment, or without it, to reappear after an interval of months. In some instances it occurs during the spring and fall. The character of the pain is gnawing, boring, sharp, knife-like, or a vague distress, pyrosis-like, localized or radiating, relieved by food, milk, or sodium bicarbonate. Vomiting is sometimes a prominent symptom in gastric ulcer. If persistent, one may suspect pyloric obstruction due either to edema, functional spasm of the pyloric sphincter or to contracted scar tissue. Various manifestations of indigestion such as heaviness, fullness and bloatedness, nausea, belching, general ill-feeling, headache, weakness, may or may not be present. The patient is oftened awakened at night from a sound sleep by pain and is relieved by food, soda, or milk of magnesia.

In group two or atypical cases, many anomalous pictures may present themselves. The location of the pain may vary considerably; it may be in the chest, over the gallbladder area, or in the lower abdomen. No uniformity in symptoms may be detected. The hyposensitive individual may deny the existence of pain or discomfort in spite of the deep crater demonstrated by x-ray. The hypersensitive may complain of severe agonizing pain but the x-ray fails to prove evidence of ulcer. In still another group the first intimation of the existence of ulcer may be perforation, hemorrhage, gastric retention, or hourglass or other deformities. Again, ulcers in their incipiency often escape our detection. The differentiation between gastric and duodenal ulcer on the basis of the history and physical findings is only of academic interest. It is hardly correct in 50 per cent of the cases. The x-ray is the best judge in the matter. The complete mechanism of pain is still imperfectly understood. The irritation by hydrochloric acid of motor nerves in the base of the ulcer is generally considered to be the fundamental cause. Hurst claims that the motor disturbance produced by this stimulation prevents relaxation of the pyloric sphincter. As peristaltic waves drive fluid downward against the closed pylorus, there is distension of the wall of the pyloric antrum and pain results from this "Strech stimulus" of nerve endings in the antrum wall.

DIAGNOSIS

Even present day diagnostic methods are not so fairly accurate in the detection of gastric or duodenal ulcer. Alvarez[27] states, "diagnosis of peptic ulcer is difficult; even the roentgenologist finds trouble. In a clear cut case everything points the way: Symptoms, high acid, cap defect, relief with two hourly feedings, lesion at operation and cure after gastro-enterostomy; but in puzzling cases there are strange contradictions in the evidence." Time does not permit adequately to cover all the diagnostic points of such a broad subject but a few salient points will be noted.

The value of a careful history cannot be too strongly emphasized. The physical examination is only of importance when a definite sore spot, rigidity, or an infiltrated scar can be palpated in the recumbent or upright position. The principal value of the test meal is the detection of gastric retention and gastric bleeding. Pyloric obstruction can be suspected when food eaten the day before can be found in the aspirated fluid on an empty stomach, or after a test meal; when frank or occult blood is readily detected by appropriate chemical means, a lesion certainly exists. We lay stress on the constancy of occult blood in gastric contents. When in addition, achylia is encountered, we are justified to suspect malignancy.

Roentgenologically, a gastric ulcer can be identified by a niche on the greater or lesser curvature, a punched out area, a 'V' shaped or other deformity. If the lesion is on the anterior or posterior wall, it is liable to escape detection; sometimes there is a greater concentration of barium in the crater and it is recognized as an area of opacity. Duodenal ulcers produce deformity of the cap due to crater, scar tissue, or spasm of muscle layer. Hourglass deformity or other structural changes are of importance. Careful fluoroscopic examination is of inestimable value.

Intragastric photography by the aid of the gastrophotor (F. G. Black),[10] although of value has found favor with only a few who are unusually skilled in its employment.

The gastroscope which has been recently introduced is a very valuable addition to our diagnostic armamentarium. Clinical gastroscopy did not exist before 1922. To appreciate its full value, one must read the volume on the subject by Schindler, recently published. In his book, he quotes Morawitz, thus: "Gastroscopy has already attained sufficient recognition and will soon become a method which the gastro-enterologist must master just as the urologist did cystoscopy." Professor Duval[12] of the University of Paris states: "Gastroscopy must be now a routine method of examination of the stomach. It must be considered of the same rank as radiology; it is neither superior nor inferior in its value; it is absolutely indispensable." Gastric pathology can be studied best by the aid of gastroscopy; even small, early, benign gastric ulcers can be plainly seen. The progress of the ulcer under treatment can be observed. Ulcerative carcinoma can be visualized. Ulcers which could not be demonstrated by x-ray have been found to exist by the aid of the gastroscope. It is therefore highly desirable to study and practice gastroscopy as a diagnostic aid in diseases of the stomach.

THERAPY

Here we meet the stumbling block of the ulcer problem. With the etiology still in the realm of mystery the specific treatment cannot be properly applied. Lesions outside the gastrointestinal tract under modern aseptic regimen heal rapidly. In the gastrointestinal tract constant motion and digestion go on. The ulcer is the result of factors permitting self-digestion. If those factors can be removed and self-digestion arrested, the ulcer will heal. The internists and surgeons have devised plans and schemes neither of which are perfect; neither can claim a full measure of success; much has been done, but a great deal must yet be accomplished before we can classify it as a curable disease. However, let us not develop the impression that the medical treatment of gastric or duodenal ulcer is hopeless. Our experience teaches us to include ulcer among the diseases which respond gratifyingly to internal therapeutics. In corroboration of such a contention, we wish to quote one of the leading surgeons of this country, Balfour,[13] who makes the following statement: "In cases of uncomplicated ulcer it is most important that surgical measures shall not be undertaken until adequate medical treatment has been tried and has failed." Charles Mayo once remarked that he never operates on a duodenal ulcer unless it was cured nine times medically. The trouble arises when the patient is unwilling to cooperate or unable to on account of economic reasons. All of us agree that surgery is indicated where complications are present, such as pyloric obstruction, acute or subacute perforation, carcinomatous degeneration of ulcer and sometimes hemorrhage. Surgical procedures are contraindicated during the time of bleeding, unless failure of the accepted measures is in evidence.

The aims of ulcer therapy are: (1) Elimination or control of the several factors believed responsible for the occurrence and maintenance of the lesion; (2) to allow the surface of the ulcer to cover with epithelium; (3) to prevent, if possible, complications; (4) to prevent gastric or duodenal infection; (5) to maintain body nutrition.

Bearing in mind the above aims, I believe that even the mildest case should have at least seven days of rest in bed, followed by an ambulatory plan of treatment. Moderately severe or chronic stubborn cases must go to bed for from four to six weeks. How can we hope to accomplish a cure?

(a) By a complete rest of mind and body; small and frequent feedings of a bland diet. The food must have three virtues, thus: must not excite the production of hydrochloric acid; must have a high combining power with hydrochloric acid; and must leave the stomach rapidly and have no residue. In this respect bear in mind Cannon's observations: "Carbohydrates leave the stomach first; proteins are next in order; fats remain the longest." Addition of necessary vitamins, particularly vitamin C, help in healing the mucosal defect and counteract the danger of bleeding.

(b) Neutralization of excessive acid by diet and drugs.

(c) Removal of stagnant gastric contents from the stomach by lavage.

(d) Removal of oral sepsis and other foci of infection.

The above basic principles gave impetus to the development of various methods of treatment, thus: Leube,[14] Lenhartz,[15] Sippy,[16] Smithies[17], non-specific protein,[18] mucin,[19] aluminum hydroxide versus alkaline powder,[20] and continuous drip.[21] Each of the above methods had its period of success and its advocates. Medicine, like time, marches on. New styles displace the old ones. We will therefore leave the academic discussion concerning the merit of the older methods to textbooks, and dwell more on the universally accepted plan and its newest modifications.

ANTI-ACID THERAPY

With the turn of the twentieth century strong advocates of the neutralization of gastric acidity found many enthusiastic followers. This has been accomplished with more or less success by the use of alkaline powders, such as sodium bicarbonate, calcium carbonate, magnesium oxide, bismuth subcarbonate, sodium citrate and tribasic calcium or magnesium phosphate. The Sippy or modified Sippy method has found great favor with many physicians since 1915; it is the usual conservative treatment. The plan is well known to all of you. In our practice, we eliminate the excessive use of cream which is not well tolerated by a number of patients; fats remain too long in the stomach. The objections to the use of alkaline powders are as follows: Short-lived acid neutralization, danger of alkalosis, secondary acid rise and sometimes influence upon intestinal motility; patients with impaired renal or hepatic function are more prone to develop alkalosis, as excesses of either acid or basic substances are not excreted with customary rapidity. We have observed three patients with typical syndromes of renal colic as a result of alkalies. Our custom is to prescribe antispasmodics before meals and small doses of alkalies after meals. With this modification, the relief from pain is quicker, the danger of alkalosis is less and the results are more satisfactory. The antispasmodics used are bromides, belladonna and luminal, or the newer preparations of atropine. For gaseous distension, we advise bowel flushes. To overcome the lack of acid neutralization at night the patients are fed once or twice during the night. Alcohol and tobacco are strictly prohibited. The "follow-up-ulcer" diet is continued for one year or more. Whenever possible the revisualization of the gastrointestinal tract is advised.

At this stage, we wish to express our views regarding other newer methods. We have tried them all with an unbiased viewpoint and our conclusions are as follows: The warm advocacy of mucin (Anderson and Fogelson)[19] cannot be accepted as a cure for ulcer. It is used sometimes as an adjunct when alkalies are not tolerated, but never by itself. The deficit of mucin protection as a factor in ulcer is merely a theory but not a proved fact. The intramuscular injections of non-specific proteins or other chemical agencies advocated long ago by Haller[22] and by Pribram,[23] has been revived of late in such preparations as synodal, histidin or larostidin, hemoprotein, and aolan. We agree with other writers that they by themselves have no curative value in ulcer, but can be used sometimes to obtain quicker relief from pain, as an adjunct to diet and alkalies. The effect is probably psychic. Our faith lies in rest, diet and acid neutralization.

ALUMINUM HYDROXIDE THERAPY

The use of aluminum hydroxide in peptic ulcer followed the use of kaolin in gastrointestinal conditions. In 1932, Einsel and Rowland[20] reported favorable results in 25 patients. To the modified Sippy diet, four grams of powdered aluminum hydroxide in water was used after each feeding. Their studies convinced them that a colloidal suspension of aluminum is capable of fixing ten volumes of N/10 hydrochloric acid. Complete symptomatic relief occurred in 13 patients. Further studies in 1934 by Einsel, Adams, and Myers[20] demonstrated that the prolonged administration of colloidal aluminum hydroxide depresses the gastric acid response to food, but inflicts no injury which prevents the return to normal after cessation of therapy. The continuous alkalinized milk drip into the stomach was advocated by Winkelstein[21] in 1933. At the rate of forty drops a minute through an in-dwelling Levin tube a constant buffer is maintained. It is of great value in severe intractable ulcers. The above authors used the Winkelstein continuous drip method with aluminum hydroxide. The acid-base balance of the blood is not influenced adversely and the acid fixing power is high. The prompt relief of pain was one of the most striking results. Gastric and duodenal ulcers studied roentgenologically healed in from seven to fourteen days. The treatment is well tolerated. No untoward effects were observed. These results have also been reported by Rowland,[20] Jones,[24] and others. Various preparations are on the market. We have used it in a number of cases with satisfaction. To overcome the nauseating effect which some patients complain of, we suggest teaspoonful doses in two ounces of Vichy. Recently, the continuous drip method of amphojel, a preparation of aluminum hydroxide, has been advised and a simple outfit for that purpose has been placed on the market.

It might be of interest and value to give a resume of 150 cases selected at random from the files. The majority (111) were males, females, 39. Three among the entire number were children, from eight to 13 years of age. In 109 cases, the location of the ulcer was on the duodenal side, the balance of 41 were on the gastric side. Only 20 of the entire group were recommended for surgery. The various medical methods of treatment were adopted in 130 cases. As a rule, we study and treat primarily the individual, not the ulcer per se. Every ulcer case should be individualized and the suitable plan of treatment outlined according to individual adaptability. A certain method for a group of ulcer cases is never practical. The conventional diet-sedation (modified Sippy regimen) was the predominant method, often plus something additional in selected cases. The results in the majority of medical cases as far as they could be traced were quite satisfactory. A recheck of gastric acidity and re-examination by x-ray were made in a number of them during a two year period following the first treatment. A change in the original plan of treatment was sometimes more successful. One patient, through misunderstanding, kept up a milk and cereal diet for three months, as per first instructions in a clinic. When first examined, she presented a typical pellagrous syndrome. This danger point must be borne in mind by every practitioner of medicine—"food deficiency disease following a too rigid ulcer diet for a protracted period." Alcohol and tobacco were strictly forbidden. It was interesting to observe that in some patients the pain disappeared only when tobacco was eliminated. Recurrences in a majority of cases were due to carelessness in diet, the use of tobacco, business worries, overwork, lack of proper rest, and an onset of an acute intercurrent infection. The gastric acidity in a number of cases remained unchanged in spite of the alkali neutralization treatment, although the pain disappeared or was greatly diminished. From recent observations with aluminum hydroxide salts, we believe that there will be a better chance to reduce the acidity, especially with the continuous drip method. As regards the laboratory side in the study of ulcer cases, we wish to mention two points of interest: First, that 73 cases gave a positive occult blood of the gastric contents. This should be a routine clinical laboratory test in preference to occult blood in the stool. Second, that only 37 of the entire group when first examined had a normal blood; all the others suffered from anemia, from a mild to a severe grade. Twenty-two of the medical patients suffered from hemorrhage, once or several times. In the 20 surgical patients the following procedures were used: 13 were gastro-enterostomized; six were partially gastrectomized; one had a Finney pyloroplasty.

Their results were as follows: One partial gastrectomy operated on by Finsterer of Vienna, during his visit to New Orleans, lived in perfect comfort for seven years, and died of pneumonia; one was partially gastrectomized three times for hemorrhage resulting fatally after the last operation; the pyloroplasty had to be reoperated on three time and he finally died of gastric carcinoma; of the 13 gastro-enterostomized, five had recurrence of pain with evidence of jejunal ulcers and three suffered attacks of hemorrhage.

Gastro-enterostomy is the method of choice in cases of pyloric obstruction by dense adhesions, constriction of pyloric sphincter by extreme gastroptosis or by a healthy scar and no open active lesion existing at time of operation. Three patients of this type responded very well to the above plan and for years had no discomfort whatever.

We have refrained from discussing the complications of ulcer, such as perforation, hemorrhage, pyloric obstruction, and carcinomatous degeneration of ulcer, for lack of time.

SUMMARY

I wish to quote the words of Crohn,[25] "To cure an ulcer under a given type of treatment that is based on rest and diet is an easy matter. To perpetuate that result is the problem. Recurrences are prone to follow sooner or later. Like the obstetric patient, few persons can long remember the distressed days and painful nights of ulcer activity." Modern life with its numerous temptations, overburdened with responsibilities and irregularities, contributes much to disease in general and ulcer in particular. Where is the Great Master who can alter the present status of life in a most restless universe? Only then will the human genius conceive a perfect scheme for control or cure of the much dreaded affliction, gastric and duodenal ulcer.

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DISCUSSION

Dr. J. E. Knighton (Shreveport): Dr. Levin has covered the various phases of his subject to the extent that a discussion should only be necessary to emphasize some of the points, which he has covered.

Regarding diagnosis, I think we are making fewer errors than formerly. There was a time when a diagnosis of ulcer was frequently made in neurotic patients in whom the real condition consisted of spasticity of the pylorus and other parts of the digestive tract associated with hyperchlorhydria. The x-ray study of these patients frequently reveals abnormal appearance of the pylorus and duodenal cap. When this is observed in association with spasticity of the colon it may usually be assumed that the distorted pyloric and duodenal picture is due to spasm.

Regarding treatment, I shall only state that I agree with Dr. Levin's suggestion regarding rest and diet, and that some of the more recent medical measures may have real merit in properly selected cases. I also desire to emphasize what the essayist has said regarding recurrence of activity of an ulcer after a period of freedom from symptoms in many instances for a considerable time. We should not be over-optimistic regarding the cure of ulcer. Every patient should be made to understand that their diet and habits of living should be guarded for a period of at least twelve months after comparative freedom from symptoms.

Dr. Donovan C. Browne (New Orleans): Whether we wish it or not, the question of peptic ulcer is becoming an increasing and more evident problem and it is not unwise that its various aspects should be reviewed again. It might be well to change the term "treatment of peptic ulcer" to "management of the peptic ulcer patient," since it becomes not merely the treatment of the immediate ulceration but management of the patient and adjusting his routine to give the maximum assurance of the future.

Concerning the etiology of peptic ulcer, I prefer to think that certain individuals have a constitutional predisposition and when secondary factors which we have considered etiologic appear, the patient develops a peptic ulcer. One of the principal factors from the clinical standpoint is hyperacidity, for unless this can be controlled, it is certain that the immediate ulcer will not heal. Without going into the various methods of treatment, I would like to comment on the use of the continuous drip method. This procedure offers distinct advantages in that there is a continuous neutralization of the stomach content and the advent of aluminum hydroxide has added another advantage in that the danger of alkalosis is done away with. The value of continuous neutralization in handling the immediate ulceration has been well established, and our results with this procedure have been most gratifying, especially in the border line surgical cases of penetrating ulcer.

One other factor I feel should be stressed, the deficiency diets. It is notable that the ulcer patient at sometime or another goes on an unbalanced diet, either of his own volition or in the course of his treatment by the physician, and I feel sure that many instances such as recorded by Dr. Levin occur. The work of Smith with vitamin C deficient diet is noteworthy. A large percentage of his animals developed gastric ulcers. Watters, following this up clinically, has found many of the ulcer cases with vitamin C deficiency. Effect of vitamin CC on the healing process of wounds you are familiar with. These observations, along with the work of Quick on vitamin K, I feel open a great field for the clinician in the management of the peptic ulcer patient.

Dr. Alton Ochsner (New Orleans): I think it is extremely interesting to review Dr. Levin's statistics concerning the surgical treatment of his cases. Of the 13 patients who had been treated by gastrojejunostomy, five developed subsequent jejunal ulcers, an incidence of approximately 38 per cent. This is not a uniquely high incidence, but corresponds closely to clinical and experimental observations made by numerous investigators. It has been repeatedly affirmed that the promiscuous performance of gastro-enterostomy will be followed by an even higher incidence of occurrence. The explanation for this lies in the existence of a predisposing factor, which is present in all individuals and has been referred to as "tissue susceptibility." This consists of an inherent vulnerability of certain portions of the gastrointestinal tract to the peptic digestive activity of acid gastric chyme. This inherent lack of ability to resist the digestive eroding effect of the acid gastric juice increases with the aboral distance from the pylorus; i. e., the jejunal mucosa is more susceptible than the duodenal and the ileal is more susceptible than either of them. Thus, it is perfectly obvious that gastrojejunostomy performed in patients whose gastric acidity is normal or increased is a dangerous procedure because of the likelihood of an ulcer developing in the jejunal mucosa opposite the stoma. On the other hand, gastro-enterostomy is the operation of choice in those cases in which there is present a hypochlorhydria or an achlorhydria as a result of pyloric occlusion, chronic gastric stasis, and consequent atrophic gastritis. It is, therefore, imperative in all cases of peptic ulceration in which an operative procedure is considered that careful preoperative gastric analysis be made.

As emphasized by Dr. Levin and Dr. Browne, therapy of peptic ulceration per sė cannot be considered surgical. I am convinced that surgery of gastroduodenal ulceration should consist largely, if not entirely, of the treatment of complications.

Dr. A. L. Levin (In closing): I wish to lay stress on the modern plan in the treatment of peptic ulcer regarding the control of the acid factor. The neutralization by alkalies is of value, but there are danger points and drawbacks as outlined in my paper. Researchers have developed a new plan, namely, the use of aluminum hydroxide as an absorbent of the acid. I have tried it and am satisfied that it is superior to alkalies. There is no danger of alkalosis or secondary irritation with the production of higher acid values. I had the opportunity years ago to discuss the subject of acid factor in peptic ulcer with Dr. Finsterer of Vienna, the advocator of partial gastrectomy for the treatment of peptic ulcer. He was convinced that his theory of destroying the acid-bearing area will cure and prevent the recurrence of peptic ulcer. The jejunal ulcer after a gastroenterostomy, he believed, was due to the fact that the surgeon makes a new opening through inflamed gastric mucosa. Get rid of the acid and the ulcer will heal. The suggestion then recently made by workers in this field to use the continuous amphojel drip, or as Winkelstein advised the continuous milk drip, is a good one and promises fine results.

THE USE OF CAMPHOR-IN-OIL TO CHECK LACTATION*†

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Conditions are not infrequently encountered in the puerperal woman and infant that indicate lactation should be checked completely or suppressed. Some of these conditions permit the breasts to become "over-filled", and their sensibility is so greatly increased, that the woman's constitution is reacted upon. Local and general conditions may affect the mother in such a way that nursing would be contraindicated for the good of herself or the infant. Conditions may occur in the infant that render nursing inadvisable. It, therefore, behooves the attending physician to be able effectively to control lactation, not only for the good of the mother and infant generally, but also to prevent the development of inflammatory conditions that frequently arise, following the use of ineffective measures.

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CONTROL OF LACTATION

Lactation may be effectively controlled in one of two ways: (1) Maintenance of proper support to the breasts,[1] either with adhesive tape or "special type" brassieres, restriction of fluid intake, perhaps saline cathartic and perhaps application of ice bag; (2) use of camphor-in-oil by hypodermic administration.

My discussion will be limited to the second method. The effect of camphor on the breasts was first noted clinically by J. Rosenblatt[2] in 1922. He observed that when camphor was given to nursing mothers for cardiac disorders, it caused a reduction in the excretion of milk, and within a few days complete cessation of lactation. He did not offer an explanation for this action.

In 1929 it occurred to me that if camphorated oil, by local application directly to the breast would help relieve engorgement or favor involution, then it possibly would be of value when administered hypodermically. Experiments were begun then, and are being continued at the present time. I did not know at that time that any one had done any work to check lactation, using camphor-in-oil.

Selection of patients to be treated, 115 in all, has been made from more than 2250 confinement cases, both charity and private. The results set forth are about the same upon involution of the breast, irrespective of race, age, duration of pregnancy, parity, and indications for checking lactation.

GENERAL INDICATIONS FOR CHECKING LACTATION

The general indications[3] for checking lactation are: still births; weaning of baby; cardiac disease (severe); collapse; anemia; polygalactia; unwed mothers; mastitis; monstrosities; tuberculosis; cracked nipples; retracted nipples; breast tumors; eclampsia; pneumonia; sepsis; agalactia (scarcity or lack of milk); galactorrhea (continuous flow of milk); inflammation (abscess); and unknown causes for not nursing.

My experience thus far permits to reduce the number of indications and group the 115 cases of this series as follows:

TABLE 1

1.	Still born	82
2.	Polygalactia	10
3.	Weaning	8
4.	Cardiac disease	4
5.	Collapse	3
6.	Anemia	3
7.	Unwed mother	1
8.	Mastitis	1
9.	Cesarean section	2
10.	Premature	1
	Total	115

TABLE 2

OUTLINE FOR DOSAGE OF CAMPHOR-IN-OIL

Day	A. M.	P. M.
1	3 gr.	3 gr.
2	3 gr.	3 gr.
3	3 gr.	-------
4	3 gr.	-------

The smallest number injections in any one case was one.

The largest number injections in any one case was twelve.

The average number injections for each case was five and one-tenth.

TABLE 3

CLASSIFICATION OF ENGORGEMENT INTO DEGREES OF SEVERITY

Degree and Symptoms

1st—Slight; symptoms, free-or almost.

2nd—Moderate; slight pain, tenderness.

3rd—Marked; severe pain, tenderness, slight caking.

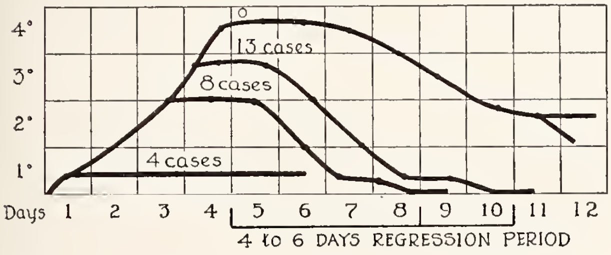
4th—Severe; inflammation (abscess).

In making such a classification of engorgement, it is to be understood that the "degrees" are relative, not absolute, and that individual variations are many, but such a plan sufficed for clinical experimentation.

PLAN OF TREATMENT

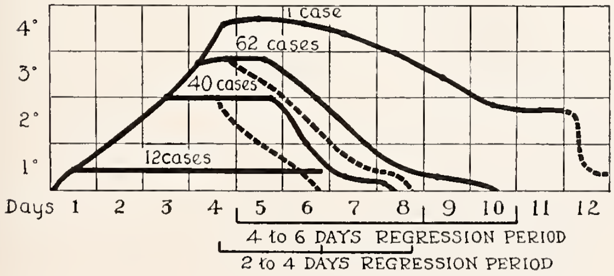
Camphor-in-oil, sterile ampules, by hypodermic, given intromuscularly, is all that was used in the form of medication. Some of the pendulous type breasts were supported with adhesive tape, cloth slings, or brassieres, but always avoiding compression. Epsom salts, breast pumps, limitation of fluids were not used. Ice bags were used in only a very few cases. In early experiments, I used one to two grains of camphor each dose but soon found that three grains gave more prompt involution without unfavorable reaction to the patient. Camphor by mouth is irritating, slower in action, less effective, than by hypodermic, therefore the choice in method of administration.

Fig. I. CONTROL: Normal Lactation Behavior Curve Postpartum.



A group of 25 cases was used as controls. No medication was used, the breasts left alone, in order to ascertain the behavior of normal lactation. In four cases (16 per cent) first degree engorgement was noted, there was some enlargement, but no noticeable pain. In the 21 remaining cases (84 per cent) there was evidence of engorgement to second and third degree which begins in the second day, attains maximum on fourth and fifth days, and gradually declined over four or five days to stage of quiescence at the ninth to tenth days. It is seen from the above that a small percentage of cases would not necessarily need to be treated. Not one of this series developed to fourth degree or actual inflammation.

Fig II. COMPARISON Normal Lactation Curve (▬) with Effects of Camphor (╍)



Improvement noticed 8-12 hours after first injection.

In the group of 115 cases studied, twelve cases did not require treatment. In the remaining 103 cases, 40 developed second degree engorgement, 62 developed third degree engorgement, and one to fourth degree. Treatment was begun between the forty-eighth and ninety-sixth hour postpartal; the breasts had actually become engorged and painful. Regressive changes were noted eight to twelve hours after treatment was begun and were complete within 48 to 84 hours. The quiescent, or non-lactating stage, was reached in two to four days in place of the usual four to six days.

The one case that developed to the fourth degree, showing all signs of inflammation, without suppuration, deserves special mention. There was temperature of 100.4° from the fourth to eleventh postpartal day due to mastitis. Alternating hot and cold applications were made from fourth to eleventh postpartal day, two doses of epsom salts given orally, all to no avail. Two injections of camphor were made on the eleventh and twelfth days postpartal, respectively; there resulted immediate drop in temperature and regressive signs in the breast to normal, within 48 hours after the beginning of camphor injections.

THEORY OF ACTION OF CAMPHOR

Liegner's[4] experiments on postpartal guinea pigs show the height of functions of the lactating epithelium about the sixth day with beginning recession thereafter. Camphor-in-oil brings on regression on the second day. Camphor has a particular affinity for the lactating epithelium, rendering it hypersensitive, and inhibits its action; this takes place within six to twelve hours from time of administration.

R. R. Green and Ivy[5] studied the pharmacologic action of camphor-in-oil on lactating and involuting breast tissue from the rat and guinea pig and observed no particular inhibitory effect.

TABLE 4
REACTIONS DUE TO CAMPHOR

1. Numbness of lower extremities.
2. Drawing sensations in legs.
3. Drowsiness, dizziness.
4. Nausea, vomiting.[6]
5. Local itching seven to fourteen days after injection, erythema.[7]

DISCUSSION

Reports in literature, experimentally, are for and against the efficacy of camphor-in-oil to check lactation. Clinical experience, however, has taught me that if patients are treated within the first 24 hours postpartum, 85 to 95 per cent will not develop to second degree engorgement, regression taking place much more promptly. When injections are given after the first 24 hours, the period of regression is remarkably shortened. This simply means that the usual length of time a woman suffers from "increased mammary tension" is shortened. The risk of development of dangerous local engorgements and inflammations, and latent sequelae, is thereby diminished. The value of this plan in severe cardiac disease, anemia, and tuberculosis is pronounced when considering there is little or no constitutional reaction from its administration.

Fifteen cases of polygalactia (too much milk) have been treated to date, with one and not more than two injections of camphor to obtain suppression of the flow, without complete cessation, and with no unfavorable effects upon the nursing child. One must be guided by the amount of lactation as to the number of injections required merely to suppress the flow of milk in each case.

CONCLUSIONS

1. Camphor-in-oil is the most effective method partially or completely to suppress lactation.
2. Pain due to engorgement is relieved in eight to twelve hours following the first injection.
3. The sooner the injections are given postpartum, the quicker the relief and more effective is the action.
4. No unfavorable reactions were noted in this series.

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SOME OBSERVATIONS ON THE USE OF URINARY ANTISEPTICS*

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NEW ORLEANS

The object of this paper is to show that although there are numerous so-called urinary antiseptics in use today, there are actually only a few which are of any value in the average case of urinary infection; and that urinary antiseptics which are effective in uncomplicated cases may have a palliative, but not a curative, effect on those cases having complicating factors.

I believe nearly every doctor practicing medicine has observed that the use of a large number of drugs for the treatment of an infection means there is no specific cure for the condition, otherwise the other drugs would have long passed into discard. As knowledge of infection has increased with the passage of years, physicians have sought to find remedies which would be useful in each type of infection rather than one which would cure all types of infection. Today we are beginning to see the specificity of drugs for each type of infecting organism.

DIAGNOSIS

In the past it has been the practice of the physician to examine the urine of the patient, and upon finding pus in the urine, to label the case as one of urinary infection, immediately prescribing some form of urinary antiseptic. This was just about as bad as making a diagnosis of "diarrhea" and proceeding to treat the patient with opiates, bismuth and whatnot, with no attempt being made to determine the causative factor of the diarrhea. It is just as important in all urinary infections to determine the infecting organism as it is in dysentery to know whether it is bacillary, amebic, or any other kind of dysentery. The examination of a stained smear from the sediment of the centrifugalized urine would certainly give one a very quick idea as to what type of organism he had to deal with in a particular case. If necessary further studies of these organisms can be made by the laboratory expert to determine the exact one of the group which is causing the infection. The mere finding of pus and organisms in the urine does not establish the disease, or the organ or organs involved. The infection of any organ of the urinary tract from the urethra to the kidney will produce pus and organisms in the urine. It has been the experience of urologists on numerous occasions to see patients who have been rejected or told to come back for future examination by life insurance examiners, because pus was found in the specimen of urine brought for examination. This pus may have come from a chronic nonspecific urethritis, or from a chronic prostatitis, and have nothing whatsoever to do with any infection of the upper urinary tract. The collection of urine must be done in a manner to avoid contamination in the male from the urethra and prostate, and in the female from the urethra and vaginal orifice. In the male only the second portion of urine voided should be used for examination for infections in the upper urinary tract. In the female only a catheterized urine should be used for this examination.

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Several factors must be kept in mind when a patient is seen with a urinary infection. First, the duration of the infection is determined by the appearance of symptoms; second, whether the symptoms are referable to the lower or the upper tract; third, whether it is a symptomless pyuria of undetermined age. Should the symptoms be of recent date one can be fairly sure that he is dealing with an acute condition. If the symptoms have recurred from time to time, however, it may be a chronic infection, and although the patient may be having acute symptoms of infection this only means that the organisms have become active, and the use of urinary antiseptics in this type of case may relieve the patient of symptoms, but the infection will remain in a quiescent form. In all cases of symptomless pyuria one can, by digging deep into the history, find that at some time there has been an acute stage of infection. This acute stage usually marks the beginning of the infection and on careful questioning one may even discover which organ or organs of the urinary tract have become infected. Quite commonly in symptomless pyuria calculus formation is found in the kidney. All cases of infection of the urinary tract which have lasted over a long period of time, whether they are symptomless or whether they have acute stages, should be suspected of being complicated by calculi. The same holds true in inverse ratio; calculi which have existed in the kidneys for any length of time may become infected and produce symptoms of acute inflammatory disease of the kidneys. Therefore, in infections of the urinary tract one should always have roentgen rays made to rule out the possibility of stone being present. There is one exception to this, and that is in the acute urinary infection in which all the symptoms are of recent date and entirely referable to the lower tract, such as acute cystitis in the female; acute prostatitis, cystitis, posterior urethritis, in the male. Even in these cases one must always bear in mind that there may be an associated silent infection of the kidneys, and if the patient does not respond to ordinary urinary antiseptics and local treatment, the kidneys should be investigated for possible infection.

Very frequently one sees a patient with acute cystitis who presents himself promptly for treatment and during the course of treatment develops discomfort or pain in the region of one kidney or both kidneys, which discomfort is followed by a rise of temperature to over 100 degrees. This indicates that the infection is not confined solely to the bladder but that the kidneys are also involved. At first it may be presumed that the kidneys are perfectly normal, but if the patient does not respond readily to the usual treatment with urinary antiseptics, we are led to believe that there may be some anatomic fault present which does not facilitate proper drainage from the kidney. There may be a ptosis of the kidney, a kinked ureter, or even a hydronephrosis. This can be determined only by a proper investigation of the kidneys. It is obvious, therefore, that wherever there is a urinary infection present there should be a proper investigation made to determine whether or not there is any complication which interferes with proper drainage of the urinary organs;

for if there is stasis of urine, cure of the infection cannot be accomplished without first remedying the cause of the stasis. This holds true for the bladder as well as the kidneys, and in cases of vesicle neck obstruction: wherever there is a residual urine present and there is also infection, the infection will not be cured without first relieving the stasis.

TYPES OF ANTISEPTICS

Urinary antiseptics have been added to year by year until they are so numerous it is hard to keep in mind the names of each one used during the past several decades,—or since urinary infections have been more clearly defined, and it seems that during this time every pharmaceutical house has put forth what was thought to be an ideal preparation, each being extensively used for a period of time and then falling into discard as time proved that there is no such thing as an "ideal" urinary antiseptic.

The first dye urinary antiseptic to be used was methylene blue, usually accompanied by one of the sandal wood oils and most frequently used in gonorrheal infections. This medication relieved symptoms of acute inflammation to a certain extent and was accepted by the older practitioners as being of some value as an antiseptic. It may have inhibited the activity of the infecting organism, but it certainly did not destroy or sterilize the infection. Alkalinization by the use of various alkalies also alleviated the symptoms to some degree and was thought to have an antiseptic value.

Urotropin was one of the first real urinary antiseptics to appear, and its popularity lasted over a long period of time, and is still used today with good results in certain cases. But urotropin is not a cure-all, and may even produce harmful effects rather than curative results. Urotropin is not broken down by every patient in the same rate, that is, the amount of formalin liberated varies considerably in each individual, and so the excretion of formalin in the urine varies. In some cases a large amount of formalin is excreted, and the irritating effect of this chemical is such that it may cause considerable irritation of the entire urinary tract. It may be so irritating as to cause a hematuria; it may increase bladder tenesmus; or it may produce inflammatory reactions in the ureter that interfere with proper drainage from the kidney. In cases of kidney infection under the influence of urotropin one may often see the temperature continue to rise, but upon changing from urotropin to alkalies this same temperature falls to normal. This observation was responsible for the so-called acid-alkali treatment of pyelitis, used particularly by the pediatrician. Of course the alkalies had only a soothing effect upon the urinary tract, relieving ureteric spasm and so furthering drainage. In order to make urotropin more effective it was necessary that the urine be acidified. The first drug used for this purpose was the acid sodium phosphate, and strange to say all proteins were prohibited in the diet of the infected individual. These very same proteins would have helped in the acidification of the urine and relieved the gastrointestinal tract of the burden of acid sodium phosphate.

Then came the War with its infected wounds, and the use of dyes to combat these infections, and again the pharmaceutical houses stepped in with dye preparations that were eliminated through the kidneys to be used as urinary antiseptics; also dye preparations to be used locally in the urinary tract, as antiseptics. Acriflavin was the most popular of these urinary dyes to be used both by mouth and locally. We have found later dyes that seem at the present time to have a very good antiseptic value.

Our next drug was hexylresorcinol, or caprokol. This drug was used extensively, and in some cases alleviated symptoms, but in very few cases did it produce sterilization of the urine. This preparation was followed by pyridium and serenium, both of which dyed the urine a brilliant golden color. This discoloration of the urine was a visible proof that it was being eliminated through the kidneys and *ipso facto* a urinary antiseptic. In some cases it did seem to produce a definite relief of symptoms as well as a definite lessening of the organisms and pus present in the urine, and in other cases a cure of the infection.

DIET

The next step in urinary antisepsis came with the ketogenic diet, which was introduced by the Mayo Clinic. It was observed that the urine of diabetic patients who were on a high protein fat diet had an inhibitory effect upon the growth of organisms in this urine. Investigation showed that the low pH of the urine and the presence of beta-oxybutyric acid in the urine was responsible for the lack of organisms found in a 24 hour specimen of the diabetic under treatment. This suggested the use of a diet which was extremely low in carbohydrates, high in proteins and fats, to produce an acidosis and a urine which had a low pH value. Patients with acute urinary infections, particularly those of the colon group, were confined to bed and put on this ketogenic diet. This soon produced an acidosis which is most of the cases could be tolerated only while in bed, and in some cases was intolerable, the acidosis becoming so extreme that the diet would have to be discontinued. However this condition was quickly overcome by intravenous glucose or by the ingestion of orange juice. The severity of this treatment was such that only those with the leisure to go to a hospital where the diet could be properly proportioned and administered could take it. To circumvent this certain drugs were compounded by the pharmaceutical houses to produce the same low urinary pH and yet keep the patient on his feet. The mandelic acid preparations were then brought out. These produced a certain amount of acidosis with its accompanying symptoms, but in a much milder degree than the ketogenic diet, and it seemed to have about the same effect upon the colon group as the diet, because of its similarity to beta-oxybutyric acid. In other words, it seemed that those cases which could have been cured by the diet could be cured by the mandelic preparations. However, neither of these treatments could be said to produce more than 50 per cent cures.

NEW URINARY ANTISEPTICS

Only recently a new antiseptic has made its appearance as a urinary antiseptic, although for a number of years it was used as an antiseptic in blood stream infections of Streptococcus hemolyticus. This drug of the aminophenylsulphonamide group, better known as sulphanilamide, or prontylin, is now being used extensively as a urinary antiseptic, and the results obtained from its use have been satisfactory, and in the estimation of many, superior to the older urinary antiseptic. Yet it is not an ideal urinary antiseptic.

Some years ago it was observed that the use of arsphenamines administered intravenously cured certain staphylococcus infections of the skin and it was used rather extensively by dermatologists in acne and furunculosis. With this lead urologists began to use the arsphenamines in the treatment of urinary infections caused by the staphylococcus group, and the results have been very gratifying, but not 100 per cent successful. The same drug has been used lately in kidney infections in which the organism, which was discovered by the late Joseph Hume, could not be cultured by any of our known methods, yet it was very distinct, both intra- and extracellular, with the microscope. Every known urinary antiseptic and local antiseptic were used with no effect upon the germ, but with the administration of neoarsphenamine the urine cleared completely.

It has been the observation of the urologist that the use of urinary antiseptics by mouth without local treatment of the infected organs will produce a certain percentage of cures, but if combined with local treatment will produce a much greater percentage of cures. For example, cases of simple acute cystitis in the female when put on urinary antiseptics by mouth without local treatment, will become comfortable in approximately fourteen days, and may in a small percentage of cases be cured in six to eight weeks; however, if supplemented by local treatment these cases become comfortable within four to seven days and in a large percentage of the cases cured bacteriologically in approximately twenty-one days. This is particularly true in the use of sulphanilamide, whereas with the use of urotropin cures required six weeks, and the percentage of cures was less. This same observation holds true with cases of early acute pyelonephritis. In both early acute cystitis and early acute pyelonephritis the organisms have not become buried deep in the tissues nor has the amount of inflammatory exudate become sufficient to prevent the action of the medicinal agents used. In older cases, due to the invasion of the deeper structures and the amount of inflammatory exudate present, the medicinal agents cannot reach the organisms, but those agents which are capable of alleviating the acute inflammatory process and so cause a reabsorption of the exudates, will make the organisms much more vulnerable to the antiseptics.

CYSTITIS

Frequently we see cases of cystitis, which are uncomplicated but have lasted over a long period of time, in which the bladder has become contracted due to its inability to hold urine for any length of time; the walls become thickened, the mucous membrane is edematous and reddened, and has lost its luster. The use of urinary antiseptics per se in this type of case is of comparatively little value. However with local treatment, using at first mild antiseptics and dilatation of the bladder, we are able to bring the capacity of this bladder from two or three ounces up to twelve to sixteen ounces, at the same time bringing about a reabsorption of the exudates in the walls of this organ and allowing our medicinal agents to permeate and destroy the organisms which are not on the surface. In days gone by it was the practice of the physician to irrigate the female bladder with a two-way catheter, allowing a little of the irrigating fluid to run in and run out again, without so much as obliterating the folds of the bladder. Similar inadequate irrigations are being used today to some extent, both in the male and the female.

GONORRHEA

This resolution of inflammatory exudate is best demonstrated by a case of acute gonorrhea in which the meatus becomes very red, painful, swollen and of woody hardness to the feel; under the application of medicines locally this condition does not improve, but when dilated slightly by the use of the sound passed just through the meatus, there is in a few hours alleviation of the pain, and in a day or two the complete softening of the tissues with a return to their normal color. This demonstrates quite visibly the dynamic action of dilatation. If this holds true with the meatus, urethra and bladder, it also holds true in the ureter and the pelvis of the kidney. However, dilatation must be gradual and atraumatic, which requires experience and skill, since trauma and acute inflammation only make the condition more severe. For instance, in acute infections of the kidney and its pelvis and ureter, I do not advocate the passage of large catheters through the ureters, but prefer to use small sizes, and as inflammation subsides to increase gradually the size of the catheter; nor do I advise the use of strong antiseptics in the ureters but start with a mild solution, and as the patient improves work up to stronger solution. Any instrument which overdilates or traumatizes the tissues, will lower the resistance of these tissues and bring about inflammatory reactions which will interfere with proper drainage from the kidney pelvis, and proper drainage in kidney infections is of prime importance.

SUMMARY

1. All cases of infection of the urinary tract must be properly investigated to determine whether or not there is a secondary factor which complicates the case.

2. The use of urinary antiseptics in complicated cases of urinary infection can be only palliative and not curative.

3. Urinary antiseptics should be chosen according to their efficacy in eradicating the specific organism. Should one antiseptic prove ineffective it should be discarded and another used.

4. Urinary antiseptics alone will produce a fair number of cures in the most favorable cases; whereas accompanied by local treatment the percentage of cures is markedly increased.

DISCUSSION

Dr. Henry W. E. Walther (New Orleans:) Dr. Pratt certainly opens an old wound when he speaks about urinary antiseptics. This always starts an argument among urologists. Some still say the only agent worth while in urinary infection is water and plenty of water. I do not know how many kidneys have been injured by giving too much water. I do know some have been so injured. Probably too little water has caused more trouble than too much; nevertheless in dealing with this subject of urinary antiseptics, I think we are all agreed that we ought to fit the patient to urinary antiseptic rather than antiseptic to the patient. We have so many of these drugs at our command today, it does seem as though it would confuse us. We realize that in complicated conditions in the upper urinary tract, by stricture or stone or diverticulum, response will not be obtained from simple oral antiseptic medication.

It was said many years ago by one of the masters of American urology that an infected kidney was one that did not drain properly. If there is proper drainage it does not get infected. Now that we have some very potent antiseptics on the market, we are told we should make blood pictures on our patients and do kidney functional tests before subjecting the patient to these very potent drugs. It is too bad that this teaching was not brought out years ago. This should apply not only to the newer and potent drugs but to urinary antiseptics as a whole. Surely where the renal threshold is very low the patient is not going to tolerate any of these drugs well. Every physician has not the command in his office of a cystoscope and roentgen ray machine and the urogram process of outlining the tract; still I believe that we should have a deadline rule. We should not give our patients urinary antiseptics blindly nor indefinitely.

The type of organism is important to know, and I should like to add that the reaction of the urine is very important. I think, in urinary antiseptics, we should think more of an agent that is going to supply us with a bacteriostat, not a bactericide. We do not get concentration strong enough in the urine to have a substance that is bactericidal. Many of the new drugs in this category retard the growth of bacteria. If we can do that, retard the growth of bacteria, we are going to get the better of the infection. No matter what is used, old or new, you are going to get about the same per cent of satisfactory results.

Finally, a warning regarding sulfanilamide. It is not a cure-all and when given in maximum doses, frequently produces violent reactions. It should always be combined with bicarbonate of soda. In longstanding conditions always get a blood picture and phthalein reading before prescribing it. In about 33 per cent of venereal and urinary infections, it has helped us materially (when combined with usual local treatment); however, even here relapses have occurred when the drug was withdrawn.

Dr. John G. Pratt (In conclusion): My contention is that there is no real urinary antiseptic today that will fit every case, and that most of the urinary antiseptics, in infections of the urinary tract, act only as bacteriostatic agents and have an inhibitory effect on the organism. They are palliative and will give the patient relief from symptoms for a period of time and at a future date there is a return of symptoms. We do see a few cases of absolute "bacteriologic cure" with urinary antiseptics. We see these cures usually in the early cases of urinary infections.

I believe in the use of urinary antiseptics in conjunction with local treatment, and believe that all cases should be thoroughly examined to find out if there are any complicating factors present before we can prophesy as to whether we will get results from the urinary antiseptics used.

OBSERVATIONS ON INSULIN AND METRAZOL THERAPY AT CENTRAL LOUISIANA STATE HOSPITAL*

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For the past year insulin shock treatment for dementia precox has been in use at the Central Louisiana State Hospital according to the technic of Manfred Sakel. Sakel, in 1930, discovered that the abstinence symptoms in patients receiving treatment for morphine addiction could be relieved by large doses of insulin. He reasoned the similarity of abstinence symptoms to other types of excitement suggested the possibility of influencing excited states of different origin in the same way. He reasoned that since in schizophrenia or dementia precox there is a splitting and disintegration of personality in which the patient is trying to escape reality and hide in a world of his own fantasy, it would be reasonable to assume that severe shock, such as insulin produces, might bring about reintegration of the personality. He began the treatment of schizophrenic patients with insulin and his results were sufficient to encourage further investigation. Dr. Sakel treated a large number of schizophrenic patients in Vienna by this method and began to report his results in November, 1933. The method apparently was first introduced to this country by Joseph Wortis, who came to Bellevue in 1936 as a fellow in psychiatric research from the Viennese Clinic. Sakel personally presented a paper on the subject at the May, 1937 meeting of the American Psychiatric Association at Pittsburgh. I had the privilege of hearing the paper presented on the subject by Sakel and secured reprints of his methods and details of technic, and the treatment was instituted at the Central Louisiana State Hospital in May, 1937, by A. L. Seale on his service. A few weeks later M. S. Freiman, Clinical Director, was sent to Central Islip State Hospital, New York, to investigate the technic employed there and on his return the treatment was instituted on his service, as well as that of W. J. Rein, L. F. Magruder and P. W. Prudhomme. This report represents a study of all cases treated by the entire staff, which covers both races and both sexes.

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*Presented before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 3, 1938, at New Orleans.

THE EFFECTS OF INSULIN

How the insulin shock in schizophrenic patients produces a personality change is not fully known; there are several theories and one may choose the one he likes best. It is known that the physical effect is to stimulate metabolism in general and liver function in particular and increase the elimination of toxins; also that any severe shock may revive the strong primitive and normal responses with reintegration of the personality. Schizophrenic patients are seen who make rapid adjustment during and after a severe illness such as pneumonia or prolonged fever, or after severe accidental trauma to tissue, such as fracture or other trauma. The method of treatment of schizophrenics by the injection of pain-producing drugs is familiar. Perhaps a constant soreness and pain at the site of injection of these drugs serves constantly to divert the patient's attention from his world of fantasy and bring him back to the world of reality. The action of digitalis in auricular fibrillation is familiar and how, due to the partial blocking effect of the digitalis on the bundle of His, the weaker and more abnormal stimuli are inhibited and only the strongest stimuli are transmitted through the bundle of His to the ventricles, thereby slowing down and improving the strength of the heart beat. Similarly Sakel pictures the schizophrenic process as a state in which nerve impulses fly fast and free (and off the handle). Insulin inhibits and blockades the nerve cells so that nerve pathway patterns come to order much in the same manner. Perhaps the effect is a biochemical one producing a change in metabolism and a change in the endocrine balance.

Whatever the action of insulin in these cases may be, psychotherapy is of paramount importance and must be strongly stressed. I do not believe at the psychotherapeutic interview that the patient's delusional and hallucinatory experiences should be discussed. An attempt should be made to get on common ground with the patient and discuss those things which were of greatest interest to the patient prior to the psychotic episode. Some patients, following treatment, will voluntarily discuss their delusions and hallucinations, stating that they now realize that they were absurdities. In such cases it is wise not to go too far along this road with the patient but to attempt to bring them back to the discussion of normal affairs. Should the patient persist in referring to the hallucinatory content, the interview should be terminated, to be resumed at a more favorable time. On rest days and following completion of the insulin injections, the patients are taken for outdoor walks or sent to the occupational therapy department when possible, as hallucinations are more apt to recur when the patient is idle. All of our insulin cases are treated in the Fuqua General Hospital and we prefer to send these patients, whenever possible, directly home from the hospital rather than return them to the wards to await parole.

SAKEL'S METHOD

The first few patients we treated were deteriorated cases of dementia precox of long standing and we felt that if anything could be accomplished in this type of case we would be warranted in treating less deteriorated and more recent cases. Our results in these deteriorated cases, while producing no complete recoveries, were encouraging enough to pursue our investigation further and at the present time hypoglycemic shock therapy of dementia precox, according to the technic of Sakel, is a regular part of our therapeutic procedure. Although we have had no fatalities directly attributable to the treatment, at the outset we must recognize that the procedure is complicated and dangerous. No definite principle of dosage has yet been found, as much of the procedure is a matter of clinical intuition and experience. We follow Sakel's method, consisting of first, preparatory phase, consisting of gradually increasing doses of insulin given daily until a physical reaction is obtained. The dose is then further increased until phase two is reached, which is the important phase. This consists of the production of a series of severe hypoglycemic shocks daily by the intramuscular injection of the necessary amount of insulin, which varies from 15 to over

200 units, depending entirely on the reaction of the individual. If the patient's physical condition is satisfactory, one rest day, without any insulin, a week is allowed. More delicate patients are allowed rest days more frequently. The shock starts usually with relaxation and listlessness and profuse perspiration, followed by somnolence and progressing into coma of varying depth. This is sometimes interrupted by a period of psychotic excitement. Satisfactory coma progresses to complete atonia of the entire musculature. If no complication arises, the patient is permitted to remain in this state one and one-half to three hours, when coma is terminated by the administration of sugar solution by means of a nasal tube. Upon being aroused the patient is fed. Should, as sometimes happens, the patient vomit the meal, he is given glucose by vein. As it is often necessary to terminate coma by means of intravenous injections of glucose, solutions stronger than 33 1-3 per cent of glucose solution should not be used as they may produce sclerosing of the veins.

Occasionally the progress of the coma may be interrupted by sudden epileptiform convulsions. There is no way of predicting this; it is considered a danger sign and the shock must be terminated at once by intravenous administration of glucose. This phase, the shock phase, is the important part of the treatment. In our experience, this period has varied considerably with individual patients. In those patients responding to the treatment in a very satisfactory manner, the treatment has been terminated after a few shocks, and in other patients an increased number of shocks have been given as high as fifty-three. It is of utmost importance to know when to terminate treatment and this seems to be entirely a matter of clinical experience and judgment. Of course if the response of the patient to the hypoglycemic procedure is unsatisfactory due to undesirable complications arising, it may become necessary to discontinue the treatment. Recurrence of convulsions, regardless of the amount of insulin administered, circulatory collapse, respiratory disturbances and laryngospasm are indications for termination of the shock, and a repetition of these conditions for discontinuance of the treatment. However, one of our patients showed no improvement until one day she had an unusual series of severe convulsions with circulatory collapse and almost died in spite of all restorative treatment. Insulin was discontinued in this case without polarization and the patient improved steadily, lost all hallucinations, developed insight, became reintegrated and was paroled as one of our recovered cases. Following the shock phase, a third and rest phase is given, consisting of several days during which the patient receives no insulin. Depending on the condition of the patient and reaction to treatment, phase four, polarization phase, or final phase, is undertaken, consisting of large doses of insulin three times daily until hypoglycemic symptoms again appear, then the doses are gradually diminished and withdrawn. In a few cases, as previously stated, this phase is omitted. Constant attendance upon the patient during the shock phase is absolutely necessary and it is for this reason that comparatively few patients, as far as the State Hospital is concerned, can be treated. We have limited the number of cases to be treated at one time by a staff physician to four, as due to the daily routine of the physician he cannot possibly undertake a greater number. It formerly required about four hours of the physician's time in constant attendance upon the patient. By careful and proper training of the physician's assistants, nurses and attendants, we have been able to reduce this time materially.

Below is submitted a table in condensed form showing results in 28 completed cases.

The average duration of psychosis in this series of cases is slightly more than three years and three months. The longest duration was 11 years, the shortest was three months. In one case only nine deep comas were employed, with good results. In another case 53 deep comas were employed with only fair results. Of the entire series seven are recorded as recovered, one markedly improved but did not improve as much as those recorded as recovered, and 12 were improved. This represented the group in which recovery was sufficient that under favorable conditions they might be paroled but in whom there was still slight evidence of psycho-

TABLE 1
RESULTS OF INSULIN SHOCK THERAPY

Case No.	Duration of psychosis	Comas	Result and disposition
1	2½ yr.	36	Slightly improved. Returned to ward.
2	3½ yr.	53	Improved. Paroled.
3	2¼ yr.	27	Improved. Returned to ward.
4	2¾ yr.	37	Improved. Paroled.
5	2½ yr.	32	Unimproved. Returned to ward.
6	6 yr.	18	Unimproved. Returned to ward.
7	14 mo.	36	Slight improvement. Returned to ward.
8	2 yr.	31	Improved. Paroled.
9	19 mo.	30	Improved. Paroled.
10	15 mo. admitted to mental hosp. 18 yrs. ago for ten weeks	35	Improved. Paroled.
11	8 yr.	33	Improved. Returned to ward.
12	8 yr.	23	Slight improvement. Returned to ward.
13*	3 mo.	15	Improved. Eligible for parole.
14	2-1/3 yr.	9	Recovered. Paroled. Treatment discontinued on account of repeated convulsions and circulatory collapse.
15	11 mo.	31	Improved. Paroled.
16	3 yr.	19	Recovered. Paroled. Treatment interrupted 10/11/37. Pleurisy with effusion.
17	1910 without hosp. 1930-1931 C. L. S. H. 4/30/37 to 2/15/38	14	Recovered. Paroled.
18	1935 without hosp. 3 mo.	14	Recovered. Paroled.
19	2¼ yr.	27	Improved. Paroled. Re-admitted 4/21/38.
20	4½ yr.	28	Improved. Returned to ward.
21	3 yr.	28	Slight improvement. Returned to ward. Now improving on metrazol.
22	11 yr.	30	Unimproved. Returned to ward.
23	9 mo.	13	Recovered. Paroled.
24	1 yr. 9 mo. (2 paroles)	10	Recovered after metrazol. Ready for parole.
25	3 yr.	17	Recovered. Ready for parole.
26	8 yr. 3 mo.	22	Slight improvement. Further improvement on metrazol.
27	5½ yr.	25	Improved.
28	1½ yr.	9	Marked improvement.

sis. Five were classified as having shown slight improvement. This represented the group of patients who might be designated as having made institutional adjustment but who are still too psychotic to leave the institution. Most of this group are able to perform routine duties about the institution; three showed no improvement.

DOSAGE OF INSULIN

As to the amount of insulin necessary to produce shock in this series of cases, it varied from 15 units in one case to over 200 units in another. Case No. 13 showed no improvement under insulin treatment and was returned to the ward when she developed fever which lasted about six weeks and was reported as tularemia by the laboratory. Following termination of the fever she began to improve, until at the present time she is eligible for parole. Case No. 14 had only nine comas when treatment was discontinued on account of repeated convulsions and circulatory collapse. The duration of the psychosis in this case was two years and four months. This patient left the institution apparently fully recovered. Two of these patients who showed only a slight improvement are now receiving metrazol and are showing further improvement. One case showed only partial recovery until her treatment was interrupted by pneumonia followed by pleurisy and effusion requiring surgical intervention. The patient apparently effected a complete recovery upon recovery from this thoracic complication. Only one patient in the entire series who were paroled has been readmitted and on readmission her condition was much better than prior to her treatment. In general our opinion is that excited cases show the best reaction to insulin treatment.

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*This patient on completion of treatment unimproved and required tube feeding, was returned to ward and developed fever which laboratory reported as positive for tularemia. Following termination of fever improvement began and continued until almost complete reintegration.

METRAZOL

In January, 1938, we began the use of metrazol convulsive therapy on patients suffering from dementia precox in this institution and at the present time have to report ten cases which are complete. We have about thirty more under treatment at the present time. It appears that in contradistinction to insulin therapy, which apparently was more or less accidentally discovered, that metrazol therapy was the result of deliberate investigation. Assuming that certain biochemical antagonism exists between the convulsive state and the schizophrenic process L. von Meduna, a psychiatrist of Budapest, Hungary, started treatment of dementia precox by administration of convulsive drugs. At first he used camphor to bring about the convulsive attacks but later found that metrazol was more suitable. In 1936 he reported a series of one thousand induced convulsions in dementia precox in which he found that a relief of the disease occurred in 60 per cent of the cases treated and that he did not observe any fatalities, serious complications or late sequelae. The technic employed in this institution, after a preliminary thorough physical examination of the patient, is to alkalinize the subject by administration of 30 grains of sodium bicarbonate three times daily until the urine is alkaline in reaction. In the morning, without breakfast, the drug is administered intravenously to the patient. It is important that a large caliber needle be used and the injection given as rapidly as possible in order that as large an amount of the drug as possible may affect the vessels of the nervous system simultaneously. We use a 10 per cent solution of the crystals in triple distilled water. The beginning dose depends on the size, weight and general condition of the patient. The minimum dose used by us has been 2¾ c.c. This dose is gradually increased by daily injection until grand mal occurs. We then give the drug on alternate days. The average dose in our series is nearly 4 c.c. Larger doses are sometimes necessary. The dose is then maintained at this or the proper dose necessary to produce the grand mal seizure. It may be necessary to increase or decrease the dose as treatment progresses. Contraindications for use of this treatment are hypertension, cardiorenal disease, fever and menstruation. On the injection tray should be chloroform, intravenous sodium amytal, coramine and padded tongue depressor. Within a few seconds following administration of the drug twitching of the facial muscles and tremor of the extremities takes place, followed by a brief tonic phase, which is followed by clonic convulsions. While a very few cases show a brief period of excitement following the convulsive seizure, the patient is usually confused for a period of time, varying from a few minutes to two or three hours. After this he appears considerably improved, in better contact with surroundings and more rational than prior to the injection. In the afternoon and on the rest day, psychotherapy is practiced on the patient as in the insulin therapy. It is very important not to employ any restraining apparatus following the seizure. This type therapy appears to be of most advantage in the stuporous types.

TABLE 2
RESULTS OF METRAZOL THERAPY

Case No.	Duration of psychosis	Convulsions		Result and disposition
1	4 mo.	Petit mal 5 Grand mal 3	8	Recovered. Paroled.
2	8 mo.	Petit mal 1 Grand mal 9	10	Slightly improved. Returned to ward.
3	4 mo.	Petit mal 6 Grand mal 7	13	Improved. Paroled.
4	5 wk.	Petit mal Grand mal 12	20	Marked improvement. Paroled.
5	20 mo.	Petit mal 3 Grand mal 5	8	Improved. Paroled.
6	10 mo.	Petit mal 3 Grand mal 3	6	Recovered. Paroled.
7	9 mo.	Petit mal 3 Grand mal 7	10	Recovered. Ready for parole.
8	1 yr. and 9 mo.	Petit mal 0 Grand mal 4	4	Recovered. Ready for parole. Insulin completed April 3, 1938.
9	4 mo.	Petit mal 2 Grand mal 8	10	Unimproved. Returned to ward.
10	8 yr. and 3 mo.	Petit mal 0 Grand mal 5	5	Slight improvement. Previously received insulin. Returned to ward.

Of this series of ten completed cases the average duration of the psychosis is one year and six months. The maximum was eight years, three months and the minimum duration five weeks. Two of the patients had previously received insulin therapy with poor results. There were four recoveries, one markedly improved, two improved, two slightly improved and one unimproved. The average number of convulsions was 9.4, the highest was 20 and the lowest four. Of the two patients who previously had received insulin one recovered and one showed only slight improvement. Those cases classified as markedly improved or improved are either paroled or eligible for parole, but there is still some evidence of psychosis. Only those patients in whom all psychotic symptoms have disappeared are classified as recovered.

There were no deaths, no complications or unusual sequelae in this series.

CONCLUSIONS

1. Insulin shock therapy is a valuable therapeutic agent in dementia precox, producing physical improvement and personality changes.

2. It is more valuable when used in conjunction with psychotherapy.

3. While there is an occasional exception, those cases treated early in the course of the disease offer best results.

4. The permanency of these results can only be determined after a period of several years' observation.

5. Metrazol convulsive therapy is a valuable therapeutic agent in dementia precox.

6. It seems to be more valuable when used in conjunction with psychotherapy.

7. Those patients treated early after the onset of the psychosis offer the best results.

8. Results in early cases, at this time, are as good as those offered by insulin with the advantage of being less dangerous and apparently without complications.

9. Metrazol therapy appears to be more satisfactory in the stuporous type.

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DISCUSSION

Dr. C. S. Miller, (Jackson, La.): As regards metrazol, I do not know that I can discuss Dr. Phillips' paper with any personal experience. However. I have seen a good many cases, 200 or 300, under treatment at the East New York Hospital. At the hospital, we have only recently started treatment with metrazol, and at present have ten patients under treatment. We have one case that was completed. We took this case simply because there appeared to be no deterioration. We thought possibly we could get this patient off by giving a few convulsions. After the fourth injection, with three convulsions, the hallucinations cleared up. Then we gave three more and the result was that the patient was able to go home. The patient recently visited the hospital and is perfectly clear and all is as in the prepsychotic life. That is the only case and no conclusion is drawn from that.

As to insulin, we began this treatment in January of this year and we have completed at the present time 14 cases. The average duration of psychosis has been three years and three months. Of the 14 cases, we have four good recoveries, three that may be classed as improved, one with marked improvement; three were discontinued on account of physical conditions, one had ulcer of the stomach, one had influenza, and the other case was one with associated bradycardia, and could go no further with the treatment; then three patients showed no improvement at all.

Dr. Phillips brought out a very important thing in treatment with hypoglycemia and that is experience in handling these cases. You have to see them and be with them in order to determine just when to discontinue treatment. There is no question but that we overtreat some and undertreat others. I have in mind one case who after four weeks of treatment came to me and said, "All those crazy ideas I had are gone, they have disappeared." While I felt very much encouraged, I said, "We will give you just a little more treatment." We carried treatment just two weeks longer and at the end of that time the patient was as in the beginning, had hallucinations, delusions, was irritable. That patient, I believe, was treated too long. Then we had another who after 34 treatments showed absolutely no improvement. After going back to the ward, he began to show some interest. Two weeks later, she came to me and wanted to go to the beauty parlor and go to a dance, and asked to lead the dance. She asked for some employment and was given that. She has maintained some interest from that time. I believe that patient was treated too short a time although she had 34 treatments.

As to the cases that respond most readily, I think we all find that the early cases give the best response. However, that is not true in all of them. Case 1 of our cases has had a psychotic condition for nine years and showed very marked improvement, and the patient mentioned as having had 34 treatments and showing improvement had been psychotic for seven years.

I want to bring your attention to this fact, that many of the early cases will have spontaneous remission, or spontaneous recovery. If we group all the young cases that get insulin, very likely insulin will get credit for a lot of recoveries it does not deserve. I do believe that hypoglycemic treatment has value, but just how great or how lasting the benefits, only time is going to tell.

Dr Walter J. Otis, (New Orleans): Of the newer therapies we have found in the psychiatric field, you have just been given the phenomonology by Dr. Phillips, followed by further details by Dr. Miller. The results as you have received them are probably dramatic and very startling to some of you, but they do actually happen. It is now the procedure of treatment in most of the neuropsychiatric institutions. The treatment should only be conducted in institutions properly equipped, under capable trained individuals with the proper nursing personnel, to undertake the insulin therapy, not so much the metrazol.

The approach to the patient for the best results is during the lowering of the threshold of consciousness when the patient is most accessible, and psychotherapy is best applied at that time.

The procedure is a dangerous one in both insulin and metrazol; anything may happen from the cardiorespiratory standpoint in both. In the former, we have cardiovascular renal manifestations. Deaths have occurred in both. Recent literature provides evidence that four deaths have occurred in metrazol therapy, two in patients who had had complications before the treatment—one aortic regurgitation and the other hydronephroma; the other two were pulmonary embolisms.

The treatment has done much for neuropsychiatric cases, if it has only transferred the patient from one plane to another. In some cases there has been transference from one attitude to another; other patients have been brought up to a certain standard physically, and it has prepared other patients for a more habitable existence among their own. I think it should be continued. I see no reason to interrupt the therapy in insulin if the patient has convulsions. There are after effects which must be prepared for, and after convulsions sometimes in metrazol.

The point with a number of cases is how early we can get the cases, how early the first diagnosis is made, how misleading is the period of so-called onset of illness given to us. I find there is much in both types of therapy in helping these mental and nervous cases which present themselves for treatment.

Dr. T. A. Watters, (New Orleans): At the Tulane Out-Patient Department we have carried on some treatment with metrazol on a relatively small number of patients. The patients were well chosen, being in the very beginning of the schizophrenic reaction. Altogether the results have been satisfactory and encouraging. Therefore, I want to supplement Dr. Phillips' paper with the statement that metrazol is helpful and influences the outlook for treatment, particularly early in the development.

In recent years, certain trends have been toward minimizing the fact that psychiatry demands a well grounded training in medicine; those of us who owe our allegiance to medicine are glad to see this treatment if for no other reason than that it emphasizes the relation of medicine and psychiatry. Psychiatry was once called the "Cinderella of medicine"; I do not believe even the most caustic and callous critic can call it that any more.

Dr. L. L. Cazenavette, (New Orleans): The many articles that have appeared in our dailies and in periodicals all over the country have certainly rendered the public conscious of the fact that there is a disease known as dementia precox or schizophrenia. Also, because of these articles on metrazol and insulin treatment for this disease the public has gotten to the point where they are now expecting that some of these treatments be given to these patients. Not infrequently have I seen some of these cases and the first question asked is, "Doctor will you give him some insulin or metrazol treatment? We do not want our patient to go to an institution for the insane, but we would like him to have some of this treatment." They understand now that it is beneficial and we are faced with a difficult problem in guiding these parents and patients in the proper direction.

Another point is this, we do not know the cause of schizophrenia or dementia precox, and as long as we are not able to answer that question, we are going to make use of all therapeutic measures that are beneficial to the patient. There is no doubt that metrazol and insulin therapy are a line in the proper direction. I have had little experience with insulin and I have had a limited experience with metrazol. I believe it is accepted that the desired reaction to the treatment by metrazol is the ability of the patient to respond properly to the metrazol reaction. That is a convulsive state which is almost identical with an epileptic grand mal seizure. If the patient reacts in this manner for some twelve to fifteen or more treatments there is a great probability that he will show improvement. If he does not, he may remain for a varied period of time in a semi-conscious, stuporous state which is very disagreeable to all concerned.

I understand that some physicians believe it is possible to give metrazol treatment to a schizophrenic patient outside of regular psychiatric institutions. This is not to be recommended, as the treatment requires several weeks or months and during that time the patient requires attention which is best offered in a psychiatric hospital. While the purpose of the treatment is to bring on a convulsive state after each injection, it is to be remembered that such a reaction is dependent on several factors. Not the least of these is the keeping of the patient in a state of alkalinization and the taking of large quantity of water daily during the course of the treatment. These help by rendering the patient more susceptible to convulsive reaction. Another factor of importance is the dose of metrazol and the manner of injection. The usual initial dose is 3 c.c. of a 10 per cent solution injected intravenously. Should the reaction or convulsion not follow the following dose is increased 1 c.c. until it does appear. The dose then is repeated, and increased again if necessary. A point of importance is that the injection is to be made rapidly.

The metrazol treatment has been found to be of greater benefit in the early catatonic type of schizophrenia. The duration of the period of remission varies in different cases. More observation is necessary before this form of treatment is to be considered a cure.

Dr. E. M. Robards, (Jackson, La.): Hearing this most interesting discussion there are two phases that I observed during my association with Dr. Miller while administering both insulin and metrazol.

Before the administration of insulin, it is very necessary that a thorough physical examination be made with a complete examination of the chest for pulmonary pathology, and particularly a study of the blood chemistry; the establishment of the normal blood sugar in particular. Then small doses of insulin should be administered with immediate checks of the blood sugar before the dose is increased. Careful and intelligent nursing is very essential, as is also supervision of the patient by the doctor in charge after the drug has been administered. On several occasions, shock has been delayed, and on more than one occasion a secondary coma has occurred several hours after the patient had apparently reacted from the initial coma.

With reference to the administration of metrazol, these cases, likewise, require a very close physical examination, with particular reference to the blood pressure. All patients, of course should be thoroughly alkalinized. After this drug has been administered, the danger of delayed convulsions must be taken into consideration. I recall one patient, whose reactions were entirely negative to the drug, who had a very severe convulsion one hour and a half after its administration.

Dr. J. J. Ayo, (Jackson, La.): At the East Louisiana State Hospital we are confronted with requests by the parents and families of the patients to use insulin, and in some cases metrazol. Of course, the relatives of the patients are not able to decide or judge what should be done, but they go by what they read in the lay press. That is the thing I deprecate most, that the people have taken hold of this and the reports they have seen in the lay press have created a false hope in the minds of the relatives of these poor unfortunate patients and they have a false opinion and idea of the efficacy of this treatment. As doctors we know all patients cannot be cured. I read a report the other day from a doctor in Atlanta, who was incorrectly quoted, (or I do not know) but the lay press carried an article in which the statement was made that he had 98 per cent cures. Now that is wrong. It is creating a false impression among people.

We use the treatment at the East Louisiana State Hospital. I am sure at the Central State Hospital they do the same way. We use it in a scientific way, and we intend later on when we have more data to release the statistics and show the profession what can be done. We are not deceiving ourselves; you cannot cure all cases.

I will state simply one instance which will demonstrate what I wish to bring home. We had a very marked case of dementia precox, the catatonic type, a young man of a very prominent family, lots of people interested in him, and we were likewise interested. We sent him to the ward. We were going to give him insulin and while waiting to have the laboratory tests made he was in the ward. This boy was in a condition even to the point of being untidy in his personal habits and from all reports he had only been afflicted several months, but he was in that condition while we were deciding to give insulin. One morning he cleared up and we decided then we were not going to give insulin. And that boy is well today and we are on the point of discharging him. Had we used this case and given him the insulin, we naturally would have concluded that the insulin was the agent that had effected the cure. We must not deceive ourselves. Some will have a spontaneous cure. I am glad to be able to report this particular instance.

Dr. Edmund Connely, (New Orleans): I wish to add the weight of my own statements to those of Dr. Ayo and Dr. Cazenavette, particularly in regard to the advertisement given metrazol and insulin therapy in the lay press. Unfortunately, the public are very poor diagnosticians and when it comes to specific treatment and specific conditions they are entirely incapable of differentiating or weighing the situations. I would not want to be a wet blanket, and I do think that both of these treatments should be tried, and thoroughly tried, but I do not think that we medical men ought to allow ourselves to become too enthusiastic, or too optimistic, as they are both new and the application of them in dementia precox is new. There are plenty of us here who can look back and remember other treatments which have been hailed with enthusiasm, particularly the intraspinal treatments for paretics, only to be dropped later as being useless. I think we should be particularly guarded in any statements that we make which are apt to be quoted by the lay press so as not to give any wrong impressions, especially overly optimistic impressions, for, as Dr. Ayo pointed out, to arouse false hope in families and in patients who are suffering from a hopelessly incurable condition is a very cruel thing.

I would also like to call attention to our statistics. In checking through them, we find wide variations. We all realize that in more recent years psychiatrists have come to putting into schizophrenic groups many cases which would not be classified as dementia precox under Kraepelin's conception. And when one sees statistics giving 39 per cent spontaneous cures, or some such figures, in schizophrenics, one cannot help but wonder just what basis was used for the diagnosis, and when the figures of spontaneous recoveries range from one or two per cent up to thirty odd per cent, one can not help but realize that the investigators are surely not using the same conception for dementia precox. So that, in making our statistics on the results of a treatment of precox, we should be careful as to how we are arriving at our diagnoses. Statistics show that the earlier the case is taken the better the prognosis. Those of us who have handled these cases for many years know that the earlier the case is taken the more probability of error in diagnosis. I am not saying this as a criticism, but I notice that in one of Dr. Phillips' cases he stated a duration of five weeks; that is a very early diagnosis for dementia precox. Another case had an attack of tularemia subsequent to taking this treatment for precox and got well. I would like to remind you all that there are such things as toxic psychoses. Therefore, I think, as medical men, we ought all to endeavor to conform to the same classifications in preparing our statistics on treatment, and we should always be most careful in giving publicity to this or any new treatment of which we cannot be certain at the present time.

Dr. Roy Carl Young, (Covington): We have used insulin in two cases and had a satisfactory adjustment in one case, and in the other case got no results at all.

We have not used metrazol. We feel at Fenwick Sanitarium that the results will depend on the proper selection of cases for the insulin treatment. In other words, some cases are more of the right type than other cases. Conservatism will have to be the keynote in these cases from now on.

Dr. C. S. Holbrook, (New Orleans): I wanted to take this opportunity to express to the Superintendents of our two state hospitals the appreciation that we all feel towards the scientific attitude taken towards these patients. All remember the dreary outlook that the dementia precox case had in the past. Very little was attempted for them. Now, this work at least is starting investigations. We may get something better before long and certainly we are headed in the right way. Both institutions are doing splendid work through the men who have trained themselves in this particular technic and given their time to it. I think the state should be congratulated.

Unfortunately, the results are not quite so good in the late cases, and most of the patients are old when they go to the institutions. There is danger of missing the diagnosis and overlooking the case which might otherwise have had remission if treated early. I agree the earlier the patient is treated, the better the outlook. Some of them might get well even if not given insulin or metrazol, but it is important to get the case early and not wait until four, five or nine years have passed.

I do not believe any of these treatments should be attempted at home. They certainly cannot be properly carried on at home but they can be administered at a general hospital, such as Touro. If we get the early cases we will do much better with them than with the older cass.

Dr. S. J. Phillips, (In conclusion): Careful perusal of the paper will show most of the points brought up and the questions and criticisms made were carefully considered in the compilation of the paper, and we were very careful in drawing conclusions. You will note that I said insulin therapy was valuable, I did not say a cure-all, and the same was true of metrazol.

As to the case of tularemia, I am sorry I did not make myself clear on that. This was an individual with a psychosis of long duration who received insulin treatment and after being returned to the ward without benefit from insulin, some time later developed tularemia and recovered following the fever. I told you in the paper of many patients who made satisfactory adjustment in dementia precox following fevers and traumas. Those are things we all know about.

It is unfortunate this has gotten into the lay press. It is apt to lead the public to erroneous conclusions. You will note in the report in my paper, the results are not so satisfactory as those reported by Eastern workers.

Dr. Robards called attention to the delayed reaction both in insulin and metrazol. These are not common but do occur and that is why it is necessary to have a trained personnel in constant attendance.

In answer to Dr. Cazenavette, I believe that we concluded that metrazol was of more benefit in the stuporous, and insulin in the excited cases.

Dr. Connely pointed out that in treating the early cases we are apt to make a mistake in diagnosis and that some of these cases might make a spontaneous adjustment. We know that about 25 per cent of early cases will make some degree of satisfactory adjustment, but these forms of therapy evidently increase this percentage and I cannot accept the attitude of being a therapeutic nihilist. I think we should treat these cases by any approach that seems to be of value.

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MEDICAL ECONOMICS

In all the active discussion that is going on at the present time throughout the country, both in the daily press and by the human voice, one of the frequently repeated statements has to do with the adequacy of medical care for the lower economic group. It is very generally assumed, and the statement is made ex cathedra, that the care of the poorer sections of the population is woefully failing.

It certainly burns one up, to use a colloquial expression, to have it assumed as the major premise of the present day discussion of medical care, that the poor man is not getting sufficient or good medical service. Certainly in New Orleans and Louisiana such is not the case. The impression would be firmly implanted on the mind of the man from Mars that the poor man in the various communities throughout the country is not given medical or surgical care when he has pneumonia or when he breaks a leg or when his wife has a baby. It is quite possible that the less opulent citizens of city or state, may not have all the frills that are assumed to go with so-called adequate medical care, yet if a man is in an automobile accident or if he collapses on the street or if he breaks his femur he never lacks really the best of care. In New Orleans, for example, if he be in an accident, he can be conveyed to Charity Hospital in a Lincoln automobile ambulance. There he will receive the most skilled roentgenologic service to determine the character of the fracture. There he would be taken care of expertly by skilled practitioners and there he would receive splendid nursing care and every attention. The same thing would happen, and does happen, to the man who has lobar pneumonia. To his wife who is going to have a baby ,expert service would be rendered, so expert, as a matter of fact, that a very large proportion of the babies of New Orleans come into the world in the Charity Hospital delivery rooms. In the rural areas, no matter what the poor man is suffering from, if the disease or the disorder or disability is a major one, no thought is given to his ability to pay, he is taken care of conscientiously, faithfully and without thought of financial return by the rural physician, if no hospital service is available.

When it comes, however, to the minor illnesses and when all is said and done the great bulk of the work of the physician, as shown by Bass, is in dealing with such conditions, it may be that the poor man does not get as much attention as does his more fortunately situated fellow. Sometimes it is a question of whether such attention is needed. Certainly in families that can afford to pay doctors, one family will call a doctor in when there is the slightest degree of illness; on the other hand, other families will have sore throats and colds and diarrheas in the members of the family unit who will be treated with home remedies or nothing is done but let nature cure them. It is possible that some of the sincere socially-minded advocates of State Medicine think that a person has not received adequate medical care unless every minor injury or illness is taken care of to the nth degree. However, every physician knows that ninety-nine per cent of these temporary disabilities will get well of their own accord.

A goodly part of the doctors' practice has to do with the functional disturbances which may produce symptoms and which may almost incapacitate a person, yet medicines do not cure these disorders and never will cure them. They depend upon the readjustment in life which fundamentally may be the result of unhappy marital conditions, economic distress or worries about almost anything under the sun. Members of the low income group are frequently maladjusted, but this poor adjustment is dependent upon fear of the results of poverty more than anything else. To these people the guarantee of enough to live on is sufficient to control their functional disorders. To us it seems far more important that the really poor man should be housed, clothed and fed before untold millions and billions are spent on something which is unproved and not substantiated by accurate figures, to wit; that the poor man does not get good medical care or enough medical care.

REGIMENTING MEDICINE

That many others besides the physician consider that it would be inadvisable to have a centralized governmental control of medicine is well demonstrated by a recent editorial in the Houston "Post." This editorial points out that there are undoubtedly some instances when the under-privileged do not secure medical attention under our present system and it adds that if this is true, it is in the great majority of instances because help is not sought and not because some doctor refused to donate his services.

There are disadvantages in socialized medicine. If the profession, medicine, should be socialized merely because an occasional person is unable to avail himself of needed service the same argument would hold good for other professions.

Every man who needs a lawyer does not always obtain legal help but that is no reason why the profession of law should be socialized. The legal profession maintains its independence as should every profession. There is no more reason why doctors should be under governmental control or under the government's wing than should engineers or lawyers. If medicine, using the term in its broadest sense, is put under governmental control in line with the general trend towards regimentation and away from the strength of private initiative, then the profession undoubtedly will be materially weakened. The Houston "Post" says that physicians deserve support in their fight to maintain their independence. This sentiment is well considered, well thought out and reflects accurately the opinion of the great majority of medical men in this country at the present time.

SULPHANILAMIDE IN MENINGITIS AND IN PNEUMONIA

The introduction of sulphanilamide into medical treatment has been spectacular and sensational. The drug, originally employed in the treatment of hemolytic streptococcal diseases, has been found to be efficacious in a wide variety of disorders dependent upon coccal infection. It is rather unfortunate that sulphanilamide has been used not only in various coccal infections but for any type of bacterial infection. Practically all observers and students of the drug are unanimous in their opinion that sulphanilamide is of little value in the treatment of bacillary infections. In spite of this there are thousands of doctors who use sulphanilamide in the treatment of any and all infections. This is to be decried because of the possibility that the drug will get a bad name because it fails to work in those conditions in which it is not efficacious and therefore may not be used in the diseases in which it acts at least as a semi-specific.

Sulphanilamide was first used as a drug in England. In that country this pharmaceutical preparation has been extensively studied both from the laboratory standpoint and from the point of view of clinical investigation. Indicative of this statement are two reports in the London Lancet, one[1] emanating from Glasgow, Scotland, the other[2] from Birmingham, England. The first report, by Banks, has to do with the treatment of acute meningococcic meningitis with sulphanilamide, used either alone or in combination with intravenous serum and the drug by mouth, as contrasted with a group of patients who were treated only with serum given intravenously and into the spinal canal by one of several routes.

In the latter instance, the death rate was 16 per cent. In the 59 patients who were given serum and sulphanilamide in combination, the death rate was 11.8 per cent. To these patients the serum was given intravenously in massive dosage together with sulphanilamide in a high initial dose by mouth which was gradually decreased after three days' administration. The initial dosage in this series of cases and the series treated with sulphanilamide alone, varied from 3.0 gms. daily in children under two years of age to a maximum of 10.5 gms. daily in adults. After three days the dose was gradually reduced and in nine days stopped.

In the group treated with sulphanilamide by mouth alone, there were 16 selected patients, of whom only one died. These represented consecutive admissions except that two very severe cases were treated with serum and sulphanilamide. From this report it can be seen that all the patients except those who were extremely ill were satisfactorily treated with sulphanilamide alone. In the fulminating, severe, or late cases, the serum should be given plus sulphanilamide. The serum should be given intravenously in quantities, according to Banks, equal to 120 cc. the first day, 90 cc. the second day.

Incidentally, as a supplement to the report, Allott[3] reports on the cerebrospinal content of sulphanilamide in 36 of the patients treated by Banks. There is considerable variation in the speed with which an effective value is reached, according to this observer. This he believes is due not so much to variation in permeability of the meningeal barrier as to the difference in the rates of excretion in different patients. He substantiates this by showing that the blood values are on a parity with the cerebrospinal fluid.

The second paper, by Evans and Gaisford, has to do with the treatment of pneumonia with sulphanilamide. These investigators report the treatment of 100 cases of lobar pneumonia with sulphanilamide. The death rate amongst the patients treated with sulphanilamide was 8 per cent, in contrast to a rate of 27 per cent in the control series of patients who were observed simultaneously. The temperature in the treated cases usually fell quite promptly within the first 24 hours. In 60 of the patients the temperature was normal within 48 hours. There was a concomitant clinical improvement with a diminution of toxemia, and in the delirious patients a clearing of the sensorium. These two men at the onset gave relatively small doses of the drug but later on gave larger initial doses, when it was found that there was no development of granulopenia. On admission four tablets, or 2.0 gms., were given at once, and thereafter 1.0 gm. every four hours continued until 25.0 gms. had been given.

Reports such as these are most encouraging. However, we must bear in mind that it will not be until a very large series of cases has been collected that a physician may be assured that this new drug is as effective as would now seem to be indicated by preliminary studies.

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[1] Banks, H. S.: Serum and sulphanilamide in acute meningococcal meningitis, Lancet, 1: 7, 1938.

[2] Evans, G. M., and Gaisford, W. F.: Treatment of pneumonia with 2-(p-aminobenzenesulphomamido) pyridine, Lancet, 1: 14, 1938.

[3] Allott, E. N.: Sulphanilamide content of cerebrospinal fluid during the treatment of meningococcal meningitis, Lancet, 1: 13, 1938.

HOSPITAL STAFF TRANSACTIONS AND CLINICAL MEETINGS

HUTCHINSON MEMORIAL CLINIC

Scientific Session conducted by the Department of Obstetrics, with Department of Medicine cooperating.

Differential Diagnosis of Hypertensive States in Pregnancy (Dr. W. H. Gillentine, Department of Medicine): The differentiation of hypertensive states with or without kidney damage becomes of major importance when it is realized that these states occur in 3 per cent of pregnant women and result in 22 per cent of maternal deaths. They may be divided for study into two groups: (1) Conditions occuring in pregnancy alone, eclampsia, and (2) those which are found also in the individual who is not pregnant, namely, pre-existent hypertension and/or nephritis, the degenerative nephropathies, and the questionable group termed variously low reserve kidney, or the nephritis of pregnancy.

The syndrome of eclampsia consists of a sudden onset after the twentieth week of high blood pressure, averaging 185/115 maximum, edema, proteinuria, headache, nausea, epigastric pain and occasionally icterus. No kidney damage is demonstrable using such functional tests as the urea clearance, concentration tests or phenolphthalein tests, in spite of the fact that albumin, casts of all kinds, and red blood cells are present in the urine. The blood chemistry reveals an increased uric acid, decreased CO_2 combining power, decreased H ion concentration and a normal non-protein nitrogen. The lack of kidney damage is remarkable in this condition because of the glomerulo-tubular nephritis which exists at autopsy, in addition to an hemorrhagic hepatitis and edema of the brain with thrombosis of its blood supply. For convenience the syndrome is termed preeclampsia until convulsions supervene.

The degenerative nephropathies can be diagnosed during pregnancy only with great difficulty. The normal pregnant woman shows an increased blood cholesterol, a decreased serum protein, doubly refractile bodies in the urine, and a slight increase in blood pressure. Some of these findings are characteristic of the nephroses and of chronic glomerulonephritis of the nephrotic type in an early stage without demonstrable kidney damage and of preeclampsia in its early stage. Consequently, when edema, albuminuria without kidney failure or significant hypertension is found before the twentieth week, the condition is statistically best classified as chronic glomerulonephritis of the nephrotic type; and after the twentieth week, preeclampsia.

Pre-existing hypertension or nephritis may be diagnosed definitely if there is a history of onset before pregnancy or presumptively if the onset occurs before the twentieth week. The average blood pressure maximum in these conditions is 194/148. Essential hypertension before the stage of secondary kidney damage may be diagnosed on the basis of history or, later, on the basis of the clinical expression of cerebral changes, cardiac failure, or renal failure. Malignant hypertension may be diagnosed on the presence of necrotizing arteriolitis. The diagnosis of nephritis or the secondary stage of the hypertension hinges on the demonstration of decreased kidney function. Available tests do not show decreased function until the kidney reserve has been definitely impaired. Therefore, if function is compensated then it becomes impossible to differentiate these conditions from preeclampsia or from some of the degenerative nephropathies or the so-called low reserve kidney. If damage can be demonstrated to exist after pregnancy, preeclampsia and low reserve kidney may be deleted. Pregnancy always causes an exacerbation of essential hypertension or nephritis at about five and one-half months as a result of theoretical factors termed "increased burden on the kidneys" and "toxemia of pregnancy."

Pyelonephritis also causes hypertension in pregnancy, frequently persisting for months after delivery. It may be diagnosed on the basis of the occurrence of infection of the kidney pelves plus gradually decreased kidney function.

The syndromes termed low reserve kidney, or nephritis of pregnancy are difficult of definition. This type of kidney disease occurs characteristically in primiparae about the eighth month of pregnancy with protein in the urine, a very gradual onset of edema and increase in blood pressure reaching a maximum of 160/100. Recovery is usually complete at the termination of pregnancy or within three weeks, but the disease may recur in future pregnancies. Studies by Douglas, and by Peckhan and Stout, show that approximately 50 per cent of patients so classified within five years are placed in the group of cardiovascular renal disease. The condition follows somewhat the classical course of a mild attack of glomerulonephritis, from which the patient recovers after a similar period. Certainly there is reason to consider some of these cases as mild cases of chronic glomerulonephritis and others as belonging to the group of preeclampsia.

When the findings of these various conditions are compared, one realizes the handicap of inadequate kidney function tests and the occurrence of similar findings in the urine of all these patients, and the very necessary dependence on the statistical course of the disease, or the frequently inadequate history of the state of the patient's blood pressure and kidneys before pregnancy. This very lack of information has been responsible for the controversy between groups of obstetricians regarding a definition of these conditions and for the impossibility of definitely isolating a group of patients with the same disease for careful scientific study. A follow-up during the early months of pregnancy cannot therefore be over-emphasized.

Syphilis Complicating Pregnancy (Dr. M. E. Lapham, Department of Obstetrics): There is no doubt but that this type of syphilis together with syphilis in the infectious stages comprise the most important phases of the disease.

The fact that many cases are undiagnosed seems to show that pregnancy confers a relative immunity upon women who have syphilis. Certainly pregnancy influences the course of a luetic infection, suppressing its manifestations and apparently giving the patient a relative freedom from certain types of syphilis such as osseous and neurosyphilis. Moore states that in a large group of infected pregnant women studied, 75 per cent manifested no clinical symptoms and the diagnosis was made first entirely by serologic tests but, later, upon more careful scrutiny, clinical signs were found in all but 22 per cent. He also calls attention to the fluctuating character of the blood Wassermann reaction in pregnant women as well as to the high (10 per cent) incidence of pregnant women with florid secondary syphilis who have a negative Wassermann. Stokes states, however, that the strongly positive blood serologic tests in pregnant women verified by repetition are diagnostic of syphilis. Hemsath even believes that a weakly positive serologic reaction in pregnant women should be considered most suggestive of infection, bearing repetition, and further careful study made of the patient, clinically, historically and with a careful follow-up of the infant.

Regarding transmission, in mothers who have a 4-plus serologic test, at least 70 per cent of the living children will undoubtedly be infected. It seems that the transmission of recognizable congenital syphilis in childhood depends on the age of the infection in the mother. The young recently infected mother is much more apt to produce an obvious congenital luetic infant than the older woman who has had the infection for a long time, and in whom it has become attentuated. It is generally felt, now, I believe, that the infant is infected by way of the placental circulation and probably in no other way. Gellhorn summed up the arguments against the old Colles and Profeta laws as follows: (1) The mother of a syphilitic child is always syphilitic herself; (2) the children of syphilitic mothers are practically always syphilitic. The infant born to a luetic mother should be watched carefully for signs of lues.

Syphilis probably causes complication in pregnancy more often than is suspected. Many minor symptoms in the latent cases of pregnancy syphilis are probably due to that disease, such as headaches, dizziness, cardiac symptoms, failure to gain weight and low-grade temperature. Many of these patients do not have the feeling of well-being that the non-luetic mother so often enjoys.

Labor may be prolonged and abnormal presentations occur more frequently than in non-infected cases because of the relatively high incidence of premature and macerated fetuses. Speiser at Bellevue Hospital stated that breech presentation was three times as prevalent in his series of luetics as it was in non-luetics. Uterine inertia and cervical dystocia are also reported to be frequent complications. Vaginal and perineal lesions such as condylomata are apt to make tissues more friable.

In the puerperium, because of the pathologic condition of the products of conception, materials are often retained in the uterus which invite infection, and both infection and subinvolution are relatively more frequent in syphilitic patients than in normal patients.

In regard to treatment, pregnancy apparently produces some of the ameliorating effects of antisyphilitic treatment. Stokes says that the pregnant woman is at her best, in that her defense mechanism and all that that infers is geared up. Therefore, less treatment is probably necessary in pregnancy to assure a normal infant than is necessary in the non-pregnant patient to cure the disease. Needless to say, treatment begun early in pregnancy or before pregnancy will assure a normal or more normal infant and less stillbirths and neonatal deaths. Mixed arsenical and heavy metal (bismuth) treatment is best, with the treatment planned to terminate with a course of arsenic. Even treatment begun late in pregnancy is shown to be of some greater benefit than no treatment at all in so far as the infant is concerned. Probably, every patient who has had syphilis should be treated in every pregnancy subsequent to the diagnosis in order to assure the delivery of a normal child.

I have found ten patients in the clinic on whom I shall comment rather briefly. They range in age from 19 to 38. The 38-year-old patient had had two normal pregnancies, one two years prior to the present one. All ten cases except one primipara had a past history of either abortion, stillbirth or neonatal death. Six patients had positive Wassermanns and four moderately positive; five had no repeat Wassermanns. One positive upon repeating was negative, and four repeats were still positive. Five patients had no further study, and had no treatment following positive serologic report. One was lost; one had 9 bismuth and five neoarsphenamine injections; one had no treatment with first pregnancy in this clinic, and a single injection during the second pregnancy; 2 had five injections two and one-half months after the diagnosis was made. Of the 6 women with strongly-positive reactions, one terminated in a four-month abortion following no treatment. The patient was admitted to the clinic three weeks before the abortion; four had apparently normal living infants following inadequate treatment, and one moved out of town after the first visit to the clinic. Of the four with moderately-positive Wassermanns, three had apparently normal living children following no treatment, and one, having a single injection, delivered an apparent syphilitic infant.

Heart Disease and Pregnancy: *Medical Aspects* (Dr. H. Isbell, Department of Medicine): Heart disease in pregnancy becomes of major importance because of the strain thrown upon the heart during the latter half of pregnancy and the further exhausting physical exertion of labor. The magnitude of the strain may be judged in part by the fact that from the fourth month on, the cardiac output of the pregnant woman increases some fifty per cent. About twenty-five per cent of maternal deaths are ascribed to heart disease.

The diagnosis of heart disease in pregnancy should be based only on the presence of one or more pathognomonic signs of heart disease and certain of these, cardiac enlargement, diastolic murmurs if basal, enlargement of the neck veins, and hypertension. must be evaluated in the light of the known changes likely to be produced in them by pregnancy.

Rheumatic heart disease constitutes 85-95 per cent of the etiologic types of heart disease complicating pregnancy; congenital heart disease accounts for 2.5-3.5 per cent.

Mitral stenosis, either alone or accompanied by other valvular lesions, is the commonest anatomic finding. With the exception of luetic aortic regurgitation, valvular lesions of themselves do not affect prognosis or treatment. Paroxysmal tachycardia is the commonest disorder of mechanism and, if of auricular type, is not considered a serious cause for alarm. Auricular fibrillation is the second commonest disorder of mechanism, and bears a poor prognosis and high maternal mortality, estimated variously from 25 to 72 per cent. So serious a complication is fibrillation that plans of treatment must be materially altered in its presence.

The estimate of functional capacity, according to the standards of the American Heart Association, is the best guide in judging ability to stand the strain of pregnancy. Whereas no general rules can be laid down, Classes I and II-a will usually go to term and deliver uneventfully. In this group, shortening of the second stage is all that may be necessary. Classes II-b and III usually give trouble and, in these, treatment must be individualized. Congestive heart failure is a serious complication. If the patient does not become compensated after two weeks of carefully supervised treatment, the pregnancy should in most instances be interrupted.

If a patient in Class II-b or in Class III requires interruption of pregnancy, it is likely that she will never be able to go to term, and, other factors permitting, sterilization should be carried out. If sterilization cannot be accomplished at the time of the interruption of the pregnancy, contraceptive advice should be given.

It is not the province of the internist to decide what type of anesthesia is best, but only to estimate the ability of the heart to bear any certain type of anesthesia. Opinions as to the best type of anesthesia vary all the way from open drop ether to spinal. The decisive factor is most likely the skill of the anesthetist in administering a given type of anesthesia. Patients in Classes I and II-a in the absence of fibrillation should bear any type of skillfully-given anesthetic. Patients in Classes II-b and III perhaps do best under local, which also bears the advantage of no effect on the fetus.

Heart Disease and Pregnancy: *Obstetrical Consideration* (Dr. J. W. Reddoch, Department of Obstetrics): There are several points to be decided in a cardiac patient who is a gravido, namely, (1) whether she can go to term without too much danger to her life; (2) the type of procedure that should be used if interruption before viability is indicated; (3) if she goes to term whether she can withstand the strain of labor; or should a section be done; (4) prevention of further pregnancies.

In arriving at intelligent solutions to these problems, the services of the internist must be utilized. Especially is it true in deciding how far a patient should be carried in her pregnancy. In a case of early pregnancy, before three months, where termination is necessary, an abortion may best be done by simple dilatation of the cervix and sponge forceps removal of the product of conception, or with the use of vaginal packs. Later than three months, the problem becomes a bit more acute. Such formidable procedures as vaginal hysterotomy or supravaginal hysterotomy are sometimes necessary and carry with them increased danger to the heart and to the patient in general. I believe that a patient who has to have her pregnancy interrupted because of a heart condition, whether it is complicated by a valvular lesion or not, should not be allowed to have further pregnancies. Such patients should be instructed as to what steps are needed to prevent future pregnancies. Unfortunately, this advice is not very accurate or dependable. If it is deemed safe for the pregnancy to continue to term or near term, the problem then is to decide whether or not the woman should be allowed to go into labor; if the latter is done, just how much will she be able to stand as far as the additional strain of labor is concerned and how much operative help she will need. Abnormal presentations and other complications of labor add to the gravity of the situation, and make the problem doubly hard. It is the opinion of Adair and Stielitz that no pregnant woman should bear down regardless of whether or not she falls in Class I or II-a. Any patient who falls into Classes II-b or III should have a section rather than be allowed to go into labor. The concensus of opinion is that this should be done under local anesthesia. Sterilization is best performed at the time of the section. Classes I and II-a offer a good prognosis and most of the time can be helped out by low forceps. In the patient that is decompensated, the problem is rather difficult and, if possible, she should have compensation restored before any sort of obstetrical or surgical measures are instituted. Rupture of membranes in an effort to induce labor has been followed by sudden dilatation of heart and pulmonary edema, and, in one patient with cardiac disease reported by Jackson, by death. Whether she would have lived, without rupture of membranes, would be a debatable question. One or two suggestions may be of some value in trying to reduce the suddenness of decrease of intra-abdominal pressure such as the use of abdominal binders with or without pads as soon as the second stage of labor has ended.

This whole problem seems to be one for continued cooperation between both the obstetrician and the internist for the best welfare of the pregnant woman with a heart lesion.

Case Reports (Dr. A. A. Caire, Jr., Department of Obstetrics): I will report on two selected cases.

The first case is very unusual. The patient is 28 years of age, with a congenital spina bifida. She went to term without any unusual difficulty in pregnancy. The following points were brought out in her history: She was born with a spina bifida and was operated on when she was three months old. She had a fairly normal childhood, though she had some difficulty in walking and has always had to wear high shoes to support her ankles. Past illnesses were minor, and she has had no physical complaints until pregnancy began. Her average weight for the past several years has been about 143 pounds. The patient married eleven months ago. Menstruation began at the age of eighteen, and was very irregular for several years. The flow usually lasted about four or five days and it was necessary for her to remain in bed for the first day because of severe pain; occasionally, the pain persisted throughout the second day. In the last few years it has been more regular, occurring every 28 days, and there has been no change since marriage, the last period being June 15, 1937. This history was taken on October 13, 1937.

The physical examination is negative until we get to the chest; the thoracic musculature is quite heavy; the thoracic cage extends downward almost to the level of the iliac crests. The breasts are large and pendulous. The fundus of the uterus is 14 cm. above the symphysis pubis. Over the lower lumbar region is the residuum of the spina bifida and the scar of the early operation. Just above Michaelis' rhomboid is a depression about 2-3 cm. deep and about 6-7 cm. in diameter, at the bottom of which is the linear scar from the operation. The scar and the area immediately surrounding it is extremely tender, so that the lightest touch causes pain. Just above and slightly to the right of the depressed area is a fairly soft, compressible, slightly movable tumor, about 5 cm. in diameter. The tumor is not tender. Around the depressed area and the tumor, extending almost across the width of the back, is a rather luxuriant growth of light reddish-brown, soft fine hair. This hair grows rapidly and has to be trimmed from time to time. The posterior portions of the iliac bones seem to be more prominent than they normally are. There is a marked scoliosis in the lumbar region. I have some x-rays which will be shown at the conclusion of these discussions.

The lower extremities are small in proportion to the rest of the body. The right foot has very little longitudinal or transverse arch, while the arches of the left foot are accentuated. On the lower half of the right leg is an area of anesthesia which encircles the leg like a sock, the upper and lower extremities of the anesthetic area being definitely demarcated lines. There is no disturbance of sensation in the left leg. No edema is present, nor are there varicosities. The pelvis is normal as to measurements and contour except that she has a slight flattening of the sacrum. This patient is the first one with spina bifida of this kind that I have seen living until mature age, and giving birth to a child.

This patient was sent to the Neuropsychiatry Section for a neurologic examination and their report, in part, is as follows: "Patient is referred to the department because of pain in the dorsal lumbar area of the back, which has become more aggravated since she became pregnant and is increased with walking . . . Neurologic examination reveals in the cranial nerves a nystagmus in extreme lateral positions and tremor of the tongue. In the upper extremities the reflexes are hyperactive and there is a bilateral Hoffman. The lower extremities show hyperactive reflexes on the left with a positive Babinski, and confirmatory reflexes. On the right normal are diminished reflexes. There is some atrophy and weakness of the muscles of the right leg below the knee, and the right foot is held in an equinovarus position. There is some spasticity of the left leg. Sensibility examination reveals an absence of vibratory and joint sense in the right leg below the knee with an absence of tactile sensibility in an area on the right lateral side of the leg and internal malleolus and over the dorsum of the foot. Pain and temperature sensibility normal. There are no sensibility defects in the left leg. Coordination tests are all normal. Patient's gait shows some spasticity and a tendency to foot drop on the right, with a slight ataxia.

"Impression: Spina bifida with atrophy of the lower lumbar and upper sacral segments of the spinal cord. Pain undoubtedly is due to spina bifida and is aggravated by the pregnancy."

The patient went to term and although she seemed to have an adequate pelvis and a spina bifida, there was difficulty in labor. She was sent to the hospital and waited some twenty-four hours before we decided to do anything. After 24 hours her pains became a little more severe, closer together, but after waiting another 24 hours, she never did go into true labor. She did not seem to have efficient nerve impulses to the uterine musculature; she had no rhythmic labor contractions. The head went into the pelvis easily. She did not make any more progress but the pains were somewhat harder. Therefore, a cesarean section was performed without any difficulty and with an exceedingly small blood loss. The patient went into shock on the table. Although she had a good bit of rest and food during entire labor, the shock became so great that it caused alarm. The operation was stopped temporarily and the shock treated. She never came out of the shock until the operation was finished and she was turned on her side. Her shock symptoms disappeared then. She made an uneventful recovery and was discharged from the hospital on the sixteenth day.

This is a patient who, notwithstanding all the care she was given and how forcibly impressed upon her was the necessity to return for treatment, has not returned to the Clinic.

The next patient is a young woman 21 years old. She gives a history of having whooping cough, mumps, measles and influenza as a child, and at the age of nine she was operated on for mastoiditis. There have been no other disturbances, nor symptoms, of which she has complained until she presented herself to the Clinic on April 6, 1938, about 4 months pregnant. A few months previously she went to another clinic and was told that she had hypertension. As far as I can determine, that was the first time she had been told she had hypertensive heart disease. She told me that the doctors had told her that she had lost a kidney in a previous operation. She did not have a kidney removed because there was no scar, and, upon her being advised likewise, she said it was burned out. There have been no nausea, vomiting, no disturbances in urination, no headache, no disturbance in the gastrointestinal tract.

The patient comes to this clinic upon the recommendation of Dr. Collins for investigation as to the hypertension, which stayed between 170/110 and 180/124. Consultations at the hospital were called for both from the medical and the gynecologic aspects. She was discharged from the hospital and came here. Her blood pressure was 158/108; pulse was 94, weight 142 pounds. This was on April 6. From April 6 through May 20 her blood pressure consistently ran between 158/108 and 158/100. On May 27 it had increased to 170/120 and on June 6, it had gone to 172/130. During all this period of time she had gained at the normal rate, and had shown no urinary disturbances until June 10 when she showed a slight trace of albumin and an occasional red blood cell, but no casts. The Eye Clinic reported that there was slight edema of both disks; left eye had slight tortuosity of vessels with diminished light reflex in periphery. On the basis of these findings, she was sent to the hospital on our service for observation on June 19; her blood pressure ran consistently between 160/100, to as high as 205/140. (Remember this is a 21-year-old woman). She was treated expectantly from June 19 to 24; on June 20, I wrote an opinion that I thought she was developing a toxemia on top of her essential hypertension; and urinary findings and the subsequent behavior of the patient proved that to be true. On that day she had a few coarse granular casts. On June 24 labor was induced. I do not care to prolong pregnancy in a woman when she is running as high as 205, 220 or 198/150 blood pressure. A bag was inserted on June 24 for 18 hours; the cervix dilated until about three fingers at which time the blood pressure had risen although she had a normal urinary output. She was given sodium amytal. She was sound asleep and never woke up during labor, notwithstanding her blood pressure of 240/160. Her pulse became rapid and irregular, so much so that when we removed the bag manually, her pulse was uncountable and I thought she was going to die. A posterior craniotomy was performed, which was not difficult as she was about six and one-half months pregnant. She promptly got better. Her blood pressure on the tenth postpartal day was 168/98. At no time did she give any complaints of any unusual distressing symptoms. My own opinion is that this woman has essential hypertension; I want to have her come here for a thorough clinical investigation.

The x-rays of both patients will now be shown.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

VACATION TIME

The activities of the Orleans Parish Medical Society during the past month have been materially abbreviated and cut down due to the fact that many of the members of the organization are on vacation and the regular meetings of the Society are not being held during August. The next regular meeting of the Society will be held on the second Monday of October.

ORLEANS PARISH ARRANGEMENT WITH DEPARTMENT OF PUBLIC WELFARE

A meeting was held on August 16 with 143 doctors who volunteered to answer calls made through the Department of Public Welfare, at which time questions were asked concerning the instructions and details of the running of the scheme. The arrangements have been made for this service through the efforts of Dr. Chaille Jamison, Chairman of a special committee, working in conjunction with Mr. Richard Foster of the Department of Public Welfare. Below is a copy of the detailed instructions that were issued to the volunteers. These are reproduced for the benefit of those who have not volunteered and who may want to come into this arrangement, as well as for the benefit of those throughout the state who may be interested in knowing what the arrangements are that have been made with the Department of Public Welfare and the physicians in New Orleans.

This present arrangement is largely tentative. It may be found that there are certain sections which can not work satisfactorily and if so they are subject to change. For the present, however, it is hoped that this arrangement will be given a thorough trial.

INSTRUCTIONS

Source of Calls: All calls will come through the Department of Public Welfare. Calls received direct from patients should not be answered, but physicians are asked to report such calls to the Department for investigation. Requests for medical care, originating with the visitors and the nurses of the Department, will be placed with the physician through Mr. Jesse Atkinson of the Louisiana State Hospital Board. Mr. Atkinson's telephone number is MAgnolia 5652.

Method of Assignment: If the patient requests the services of a physician whose name appears on the list of volunteers, the call will be given to that physician. All other calls will be given in rotation, in alphabetical order. (If a patient requests the service of a physician whose name does not appear on the list, that request will not be honored.) If a physician is unable to answer emergency calls within the hour or normal calls within six hours, he is asked not to accept the call. A physician unable to answer three successive calls will yield his place at the top of the list to the physician next in order.

Scope of Service: This service is intended for (1) emergency cases, (2) illnesses in which the patient is unable to attend clinic but does not require hospital care, (3) incurable cases requiring occasional medical services.

Physicians are asked to refer to hospital clinics and wards all patients in need of and able to obtain these services.

Contagious Diseases: Because of the difficulty in preventing the spread of infection in poor homes, contagious diseases should be hospitalized.

Night Calls: Night calls will be answered first by the nurse who will call the physician if the patient is entitled to this service.

Nursing Care: A visiting nurse will be sent daily to all cases in need of medical care.

Prescriptions: Each physician will be given a prescription pad bearing the name and address of the New Orleans Department of Public Welfare. Druggists will be notified that all prescriptions written on these pads should be billed to the Department once monthly. These pads will be numbered. The physician will be asked to enter the number of the prescription on (1) his report, or (2) the Bedside Notes. Druggists will be checked by that number.

Records: Each physician will be given a pad on which to report to the Department on each patient visited. On this form, the physician will give the Department (1) the diagnosis, and (2) the physician's recommendations.

These reports will be placed in an envelope provided for that purpose and addressed to the nurse. The envelope should then be **sealed** and left in the home for the nurse. The nurse is responsible for seeing that this report reaches Mr. Atkinson promptly.

If the physician is not certain of his diagnosis on his first visit, he is asked to give a tentative diagnosis and so designate it. On a return visit, he is asked to make a second report on Form ______, carrying the final diagnosis.

When return visits are necessary, the physician will find in the home bedside notes on which he will enter on each visit, (1) the date of his visit, (2) any orders which he may care to leave for the nurse. Daily nursing calls will be made.

Fees: The physician will be paid at the rate of $1.25 for each day call. Calls made after 8:00 p.m. and before 7:00 a.m. are classed as night calls. The fee for these night calls will be $2.50.

For the convenience of the physicians, Mr. Atkinson will compile the monthly bills, using the record of the physicians' first visits and the bedside notes as vouchers. Physicians preferring to render their own bills may, of course, do so.

At the present time there are 7,600 persons on the rolls of the Department of Public Welfare, of which fifty per cent are colored. These people are dependents who are unable to work on account of age or some physical disability. Laboratory work will be carried out by the Board of Health.

There are one or two details of the instructions which can be elaborated upon here. The patients will not have a list of the doctors who have volunteered for this service. The list will be kept in the office of the Department of Public Welfare. If a doctor's name is not on the list he will not be called by the Department of Public Welfare. Patients will be informed if the doctor requested is not on the list and will be advised that he is not available for the service. The physicians will be called more or less according to the specialties as well as can be arranged, that is to say for medical cases, men who are doing general medicine will be called. If it happens to be a surgical case, then an effort will be made to secure a doctor who is devoting much of his time to surgery.

It should be noted that people on the W. P. A. lists are not eligible for this service.

A doctor is privileged to return and make as many visits as he thinks necessary. After the first call it is not necessary to have an official call from the Department of Public Welfare office. The doctor will visit the patient on the same basis as in private practice, however if there are too many revisits or too many calls to one patient it is to be assumed that such a patient is too sick to be at home and should be referred to the hospital.

Under the paragraph entitled fees, it should be noted that these fees are only for calls within reasonable distance of the doctor's home or office. For calls in outlying districts of the city, the fee rate will be higher.

OFFICERS ENCAMP

At the recent maneuvers in southern Mississippi, either as members of the permanent Staff of the Louisiana National Guard or as reserve officers of the 106 Medical Regiment attached for temporary duty, the following New Orleans physicians were represented:

Colonels Anees Mogagab and John H. Musser; Lieutenant-Colonels E. R. Bowie and Robert A. Strong; Majors Joseph N. Ane and George D. Feldner; Captains George E. Burch and J. Durel Landry; Lieutenants Peter Everett, Robert C. Kelleher and Harold Fresh. Attached elsewhere in the maneuvers were Colonel John A. Lanford, Lieutenant Colonel Gilbert C. Anderson, Captain John B. Gooch and other Medical Reserve Corps Officers as well as National Guard Medical Officers.

NEWS ITEMS

The many friends of Dr. John Signorelli will be glad to know that he has been made medical director of the Orleans Parish School Board to succeed the late Dr. Frederick L. Fenno. The School Board is to be congratulated on obtaining the services of a man skilled in medicine and well trained in disorders peculiar to the school child.

Colonel Charles F. Craig will be one of the representatives of the American Association for the Advancement of Science at the Third International Congress on Malaria, to be held in Amsterdam, Holland. Colonel Craig will retire as professor of tropical medicine and head of the department at Tulane as of September first.

Dr. Urban Maes, professor of surgery and head of the department in the medical school of the Louisiana State University, was awarded the honorary degree of Doctor of Science at the graduating exercises in Baton Rouge, August 2, 1938.

Dr. Lucian Landry, accompanied by his wife and children, sailed August 5 for a preliminary tour of the British Isles, Holland, France and Switzerland before joining Dr. Matas in Brussels, where he will attend the Congress of the International Society of Surgery. Dr. Matas will leave New York, September 7, to preside over the Congress which will be held September 19-22.

Dr. Isidore Cohn, professor of surgery and associate director of the department in the Graduate School of Medicine of the Louisiana State University Medical Center, addressed the Bi-Parish Medical Society at Jackson, Louisiana, on August 3, 1938. Dr. Cohn's subject was "A Vascular Clinic."

FOUND

A stethoscope with cream colored ear pieces; chest piece red rubber tip; pure gum tubing. Call Dr. F. J. Kinberger, UPtown 1932.

NEW BOOKS

Dodson, A. I.: Synopsis of Genito-urinary Diseases, 1937.

Rockefeller Foundation: Review for 1937.

Simpson, W. M.: Fever Therapy, 1937.

Pohle, E. A.: Clinical Roentgen Therapy, 1938.

Niemoeller, A. F.: Men Past Forty, 1938.

Gibson, J. E.: Dr. Bodo Otto, 1937.

Wingfield, R. C.: Pulmonary Tuberculosis in Practice, 1937.

Abrahams, Margery: Modern Dietary Treatment, 1937.

Ford, R. R.: Diseases of the Nervous System in Infancy, Childhood and Adolescence, 1937.

Clendening, Logan: Workbook in Elementary Diagnosis, 1938.

London, L. S.: Mental Therapy, 2 v., 1937.

Campbell, M. F.: Pediatric Urology, 2 v., 1937.

Bastedo, W. A.: Materia Medica, Pharmacy and Therapeutics, 1937.

Crossen, H. S.: Operative Gynecology, 1938.

U. S. Census Bureau: Mortality Statistics, 1938.

U. S. Census Bureau: Births, Stillbirths and Infant Mortality, 1935.

Lord, F. T.: Pneumonia and Serum Therapy, 1938.

Pruitt, M. C.: Hemorrhoids, 1938.

Falls, F. H.: Obstetric and Gynecologic Nursing, 1937.

Gifford, S. R.: Textbook of Ophthalmology, 1938.

Underwood, F. J.: Public Health and Medical Licensure in Mississippi, 1938.

Fishberg, A. M.: Heart Failure, 1937.

Vaughan, K. O.: Safe Childbirth, 1937.

Holmes, C. J.: Negro's Struggle for Survival, 1937.

Froin, G.: Pression solaire et astrophysique, 1937.

Douglass, Marion: Essentials of Obstetric and Gynecologic Pathology, 1938.

Levinson, S. A.: Clinical Laboratory Diagnosis, 1937.

Chappell, G. S.: Through the Alimentary Canal with a Gun and Camera, 1930.

Gilbert C. Anderson, M. D.,
Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

1939 ANNUAL MEETING

Dr. Joseph A. O'Hara, President of the State Society, has appointed the following members to serve as Chairmen of the Scientific Sections for the next annual meeting to be held in Alexandria, April 24-26, 1939.

Dr. C. J. Tripoli, New Orleans—Medicine and Therapeutics.

Dr. John Signorelli, New Orleans—Pediatrics.

Dr. S. J. Phillips, Pineville—Nervous Diseases.

Dr. George H. Hauser, New Orleans—Bacteriology and Pathology.

Dr. Lester J. Williams, Baton Rouge—Radiology.

Dr. Donovan C. Browne, New Orleans—Gastroenterology.

Dr. R. O. Simmons, Alexandria—General Surgery.

Dr. William L. Bendel, Monroe—Gynecology and Obstetrics.

Dr. H. Ashton Thomas, New Orleans—Eye, Ear, Nose and Throat.

Dr. John G. Menville, New Orleans—Urology.

Dr. W. J. Sandidge, Shreveport—Public Health and Sanitation.

Dr. H. Theodore Simon, New Orleans—Orthopedic Surgery.

The Chairmen already have begun preparation for the program for their respective Sections. If interested in appearing on the program, you should communicate at once with the doctor in charge of arrangements for the Section in which you are interested or to the Chairman of the Committee on Scientific Work, Dr. P. T. Talbot, 1430 Tulane Avenue, New Orleans.

Dr. D. B. Barber has been appointed General Chairman of the Committee on Arrangements by the Rapides Parish Medical Society and the personnel of the sub-committees is as follows:

Advisory Committee—Drs. T. L. Abington, F. C. Ewing, E. R. Gandy, King Rand, R. O. Simmons and J. A. White.

Badges—Dr. James Welch, Jr., Chairman; Drs. Sam Calhoun, E. L. Miller and J. L. Woodall.

Banquets—Dr. Aubrey White, Chairman; Drs. I. N. Adams and B. H. Texada.

Commercial Exhibits—Dr. Noel Simmonds, Chairman; Drs. M. J. Hair, H. H. Hardy and F. M. Lett.

Convention Clinics—Dr. Jack Phillips, Chairman; Drs. B. C. Blake, R. Lampert and I. F. Littell.

Entertainment—Drs. R. E. McGill, Chairman; Drs. M. S. Freiman and J. T. Mosley.

Finance—Drs. James White, Jr., Chairman; Dr. E. G. Cailleteau.

Golf—Dr. D. C. McBride, Chairman; Dr. B. H. Texada.

Hotels—Dr. L. D. Gremillion, Chairman; Drs. P. F. Murphy and W. L. Murrell.

Lanterns—Dr. C. P. Herrington, Chairman; Drs. B. F. Bremer and R. C. Scott.

Locations—Dr. R. B. Wallace, chairman; Drs. E. L. Miller and A. M. Peters.

Luncheons—Dr. A. L. Culpepper, Chairman; Dr. M. B. Pearce.

Publicity—Dr. H. O. Barker, Chairman; Drs. J. W. Phillips, W. J. Rein and D. L. Trax.

Registration—Dr. O. B. Owens, Chairman; Drs. B. C. Blake and J. H. Landrum.

Scientific Exhibits—Dr. M. H. Foster, Chairman; Drs. H. O. Barker and B. F. Bremer.

Signs—Dr. B. H. Texada, Chairman; Drs. W. H. Floyd and A. J. Morat.

Transportation—Dr. J. T. Cappel, Chairman; Drs. S. L. Calhoun and G. W. Smith.

The members of the Rapides Parish Medical Society are deeply interested in making the 1939 meeting of our Society a great success and are putting forth enthusiastic effort to this end. The men on the above committees will be glad to hear from you if they can be of assistance to you in any way whatsoever.

THE NEW RADIOLOGICAL CENTER

The people of northern Louisiana are very much to be congratulated upon the forethought and initiative of Dr. S. C. Barrow and his group who have established a radiological center, whose equipment will be unsurpassed in Louisiana. There has been a very great need for adequate apparatus for deep x-ray therapy for the people of that particular section of the country. Doctors Barrow and Harwell have supplanted this need in a splendid manner. In addition to the powerful x-ray therapy apparatus, radium is also available as is electro surgical therapy in the new home that has been built to house the radiological center.

DRIVE FOR MEMBERS

Dr. Joseph A. O'Hara, President of the Louisiana State Medical Society, with the cooperation of the State Society office, is making a tremendous effort to increase the membership of the organization. Through his office, with the help of the various Parish Health Units, every doctor in the state who is not a member of the medical society has been or will be contacted.

As an indication of results that can be obtained from this campaign, it might be said that the Secretary-Treasurer visited Tangipahoa Parish during the middle of August, where eight new members were secured. The following week, Dr. Talbot visited the Parishes of Vernon and Avoyelles.

BI-PARISH MEDICAL SOCIETY

The Bi-Parish Medical Society met at the East Louisiana State Hospital on August 3, 1938. Following dinner the scientific program was held in the Staff Room. Dr. Isidore Cohn and Dr. Eugene B. Vickery of New Orleans read and demonstrated excellent papers, the former on "Vascular Clinics" and the latter on "The Diagnosis and Treatment of Renal Diseases, with Some of the Newer Drugs with Results," both of which were very favorably received. A vote of thanks was extended to Dr. Cohn and Dr. Vickery for presenting these papers and they were unanimously elected honorary members of the society.

The next meeting of the society will be held on the first Wednesday in October at 2:00 p.m. at Dr. and Mrs. S. L. Shaw's Log Cabin Lodge.

E. M. Toler, M. D., Sec.

TANGIPAHOA PARISH MEDICAL SOCIETY

The meeting was called to order May 19, 1938, at the Hammond City Hall by Dr. A. L. Lewis, President. The minutes of the previous meeting were read. The following were present: Drs. Lewis, Alessi, McClendon, Smith, Korniker, Brent, Overton, Wiginton, Kevlin, and Thames. The guest speakers of the evening were Dr. Conrad Collins and Dr. Edgar Burns, both of New Orleans, who gave very instructive talks with lantern slide demonstrations respectively on "Vaginitis," and "Urinary Infections",

J. DeLoach Thames, M. D., Sec.

NEWS ITEM

Dr. Ambrose H. Storck addressed the Third District Medical Society at its recent meeting in Lafayette, La. The subject of his talk was "Infection of the Foot and Leg."

11th CONGRESS OF THE INTERNATIONAL SOCIETY OF SURGERY

This meeting which was to have been held in Vienna on September 19-22, under the auspices of the German Government, and the cooperation of the German Surgical Society, was abruptly cancelled by the authorities early in July and, for reasons not yet explained, was made impossible in Vienna. Fortunately, the transfer of the Congress from Vienna to Brussels, which was promptly effected by the Executive Bureau of the International Surgical Society, has proved of great advantage in assuring a greater success of the Congress under the liberal patronage of the Belgian Government and the enthusiastic support of the Belgian profession. *The Congress will therefore be held in Brussels without change of date, on September* 19-21, 1938. According to the latest information received from the Secretary-General, Dr. Leopold Mayer, the scientific program will be carried out in Brussels in all its details as previously announced for Vienna. The reports assigned to the eminent specialists who are to open the discussions will revolve around the three official questions selected for debate, namely, Surgical Hypertension, Bone Grafts and Pulmonary Surgery, besides any other independent separate contributions.

The elaborate Mediterranean Cruise, planned by the Belgian branch of the French Navigation Company, under the direction of the International Bureau at Brussels, will begin in Marseilles on September 4, on board the French Packet *Le Providence* (15,000 tons), and will continue along the North Mediterranean to the Black Sea, with stops at Naples, Athens, Istambul (Constantinople), Odessa (Russia), Costanza and Bucharest (Roumania), to return to Brussels by the inland route in time for the opening of the Congress on September 19.

Dr. Rudolph Matas, President,
Dr. Elliott C. Cutler, Chairman,
American Committee.

THE THIRD INTERNATIONAL GOITER CONFERENCE

This meeting will be held in Washington, September 12-14 at the Mayflower Hotel. A truly splendid program has been provided for the listeners. Many of the outstanding men in this country, interested in the study of goiter, will appear on the program: Marine, Means, Lahey, Cutler, Crotti, Pemberton, as well as four distinguished visitors from overseas.

MISSISSIPPI VALLEY MEDICAL SOCIETY

The Mississippi Valley Medical Society will meet in Hannibal, Missouri, September 28-30, 1938. Meetings will be held at the Hannibal-LaGrange College.

RAILWAY SURGEONS

The 23rd annual meeting of the American Association of Railway Surgeons will be held at the Palmer House, Chicago, September 19-23, 1938. An extremely interesting and highly profitable program has been arranged. All physicians, irrespective of whether or not they are connected with the railroad, are invited to be present at this meeting.

AMERICAN BOARD OF INTERNAL MEDICINE

Written examinations for certification by the American Board of Internal Medicine will be held in various parts of the United States on Monday, October 17, 1938, and on Monday, February 20, 1939.

Formal application must be received by the Secretary before September 15, 1938 for the October 1938 examination, and on or before January 1 for the February 1939 examination.

Application forms may be obtained from William S. Middleton, M. D., Secretary-Treasurer, 1301 University Avenue, Madison, Wisconsin, U. S. A.

SOUTHERN TUBERCULOSIS CONFERENCE AND SANITORIUM ASSOCIATION

This meeting will be held in Louisville, Kentucky, September 19-21, with headquarters at the Brown Hotel. Under the guidance of Dr. Paul H. Ringer, as Director, there has been arranged a splendid program for the medical section. In addition to papers by distinguished essayists of the south, there also appear on the program papers by Dr. Andrew L. Banyai of Wauwatosa, Wisconsin, Dr. H. McLeod Riggins of New York City, and Dr. John Alexander of Ann Arbor, Michigan. In addition to these special papers before the medical section, Dr. Frederick T. Lord of Boston and Dr. J. Burns Amberson of New York, will give technical papers before the general session and an address will be made by Dr. Irvin Abel, President of the American Medical Association, at the Tuesday night formal session.

THE NEW YORK ACADEMY OF MEDICINE

The 11th Annual Graduate Fortnight of the New York Academy of Medicine will be held October 24-November 4. This year the fortnight of study will be devoted to diseases of the blood and blood-forming organs. As for these meetings in the past, there has been prepared a magnificent program which will be conducted in the laboratories and clinics of the hospitals and medical schools in New York City.

For a copy of the program and further information concerning this meeting, address the New York Academy of Medicine, 2 East 103 Street, New York City.

MEDICO-MILITARY INACTIVE STATUS TRAINING, MAYO FOUNDATION

Headquarters Seventh Corps Area
Office of the Surgeon.

1. The tenth annual Inactive Status Training Course for Medical Department Reservists of the Army and Navy will be held at the Mayo Foundation, Rochester, Minnesota, October 3-15.

2. During the past nine years this school, the first of its kind, has been remarkably successful. Officers attending have been most enthusiastic. The general plan of former years will be followed. Special work in clinics and hospitals will be offered during the morning hours for those asking special assignments. Presentations of carefully selected subjects in military medicine are scheduled for the morning, afternoon, and evening hours. There will be appropriate sections or special courses for officers of the Dental and Veterinary Corps.

3. The school program for the last three days of the meeting is merged with that of the Association of Military Surgeons of the United States. The Surgeons General of the Army, the Navy, and the Public Health Service will attend and participate. Outstanding medical officers from other nations will attend. The Commanding Generals of both the Sixth and Seventh Corps Areas have signified their intention of being present.

4. All Medical Department Reservists are eligible for enrollment. Approved applicants will be enrolled upon the recommendation of the Surgeon of the Seventh Corps Area or the Surgeon of the Ninth Naval District. Applications should be made at an early date and should be forwarded through the respective Reserve headquarters of the officer concerned.

Kent Nelson, Colonel, Medical Corps,
Omaha, Nebraska.

HEALTH OF NEW ORLEANS

The Department of Commerce, Bureau of the Census, reports that for the week ending July 16, there were 139 deaths in the City of New Orleans as contrasted with 133 the previous week. The racial distribution of the deaths was white 81, negro 58. There were 13 deaths in children under one year of age. The next week, which came to a close on July 23, there was almost no change in the number of deaths in the city except that 7 less negroes died. There was a total of 132 deaths of which 17 were in children under one year of age, divided 13 white and 4 negro. For the week ending July 30, there was little change in the number of deaths in the two races, there being 75 white and 58 negro, making a total of 133, virtually the same as for the week before. During this week there were 9 deaths in white infants and 5 in negro. For the week which came to a close on August 6, there was a very considerable increase in the total number of deaths, largely due to the fact that 107 white people died, as contrasted to 75 the previous week. The total this week was 154 deaths of which 47 were in the negro population of the city. The total number of deaths was materially enhanced by the large number of infant deaths, 22, of which 19 were white and 3 were negro children.

INFECTIOUS DISEASES IN LOUISIANA

Dr. J. A. O'Hara, epidemiologist for the State of Louisiana, has furnished us with the weekly morbidity reports for the state, which contain the following summarized information: For the week ending July 23, the twenty-ninth week of the year, the followig diseases were reported in numbers greater than ten: Syphilis 417, whooping cough 43, pneumonia 38, cancer 29, diphtheria 24, pulmonary tuberculosis 22, malaria 21, gonorrhea 20, typhoid fever 17 and septic sore throat 11. The typhoid fever cases were scattered throughout the various parishes in the state, Caddo and Orleans Parishes having the most, however some of these cases were imported. A case of poliomyelitis was discovered in Allen Parish and 2 cases were reported from Orleans Parish; one of which was imported. Three cases of cerebrospinal meningitis were also listed. For the thirtieth week of the year, which ended July 30, there was a material reduction in the incidence of syphilis, or probably it might be more correct to say that a large number of reporting postcards had not collected in the mail at one time. Despite the marked fall in cases of syphilis listed, this disease still dominated the weekly morbidity report, there being 87 cases on the list. This was followed by 42 of cancer, 41 of whooping cough, 36 of gonorrhea, 34 of pneumonia, 31 of pulmonary tuberculosis, 21 of typhoid fever, 17 of malaria, 14 of diphtheria and 11 of septic sore throat. Of the unusual diseases, 3 cases of poliomyelitis were reported, one each in Orleans, Ouachita and Rapides Parishes. A case of typhus fever had its origin in East Baton Rouge Parish. Ouachita Parish led the other parishes in the number of cases of typhoid fever, there being 7 listed, followed by 4 from Orleans, all imported, 2 each from Lafayette and West Carroll and 1 from each of a number of different parishes throughout the state. For the week ending August 6 there were 138 cases of syphilis listed followed by 49 of whooping cough, 46 of gonorrhea, 34 of cancer, 27 of pneumonia, 25 of malaria, 19 of pulmonary tuberculosis and 13 of typhoid fever. A case of typhus fever was reported this week from East Baton Rouge Parish. Union Parish, with 3 cases of typhoid fever, was the only parish in the state with more than 2 incidents of this disease. There were no cases of poliomyelitis reported this week. The Parish Health Units must have been terribly active during the week ending August 13 as 500 cases of syphilis were reported in that period of time. Next in order of frequency were whooping cough with 47 cases, followed by pneumonia with 41, cancer 35, pulmonary tuberculosis 33, gonorrhea 30, malaria 27, influenza 25, typhoid fever 18, measles 13 and diphtheria 11. There was 1 case of poliomyelitis this week in Louisiana, discovered in St. Martin Parish; 2 cases of anthrax and 3 of tularemia were also reported in the state.

ROBERT HOLLINGSWORTH POTTS

(1884-1938)

The medical profession of New Orleans was shocked to hear of the sudden death of Dr. Potts, Monday, August 22. Dr. Potts had been in Shreveport during the forty-eight hours previous to this fatal attack and there had the first definite indication of the heart condition which was to cause his death.

Dr. Potts was born in Jacksonville, Florida in 1884. He graduated from A. and M. College of Mississippi and from Tulane University Medical School in 1918. For some years he was associated with Dr. John Halsey in the Department of Pharmacology and Therapeutics. Subsequently he transferred to the Department of Medicine and then in 1932 became connected with the Louisiana State University Medical Center.

Following his graduation, Dr. Potts served an internship at Touro Infirmary. He promptly became a member of the Parish and State Societies as well as the American Medical Association.

At the time of his death, Dr. Potts, in addition to a large and active practice, was Assistant Coroner of Orleans Parish. He was also visiting physician at Charity Hospital and was one of the senior physicians at Southern Baptist Hospital.

WOMAN'S AUXILIARY

Louisiana State Medical Society

President—Mrs. Frederick G. Ellis, Shreveport.

President-elect—Mrs. S. M. Blackshear, New Orleans.

First Vice-President—Mrs. C. A. Martin, Welsh.

Second Vice-President—Mrs. A. G. McHenry, Monroe.

Third Vice-President—Mrs. D. C. McBride, Alexandria.

Fourth Vice-President—Mrs. A. F. Hebert, New Orleans.

Treasurer—Mrs. O. C. Rigby, Shreveport.

Recording Secretary—Mrs. D. T. Milam, Monroe.

Parliamentarian—Mrs. A. A. Herold, Shreveport.

Corresponding Secretary—Mrs. C. B. Erickson, Shreveport.

Historian—Mrs. W. P. Gardner, New Orleans.

COUNCILORS FOR DISTRICTS

First District—Mrs. W. R. Buffington, New Orleans.

Second District—Mrs. R. B. Harrison, New Orleans.

Third District—Mrs. C. M. Horton, Franklin.

Fourth District—Mrs. Charles Gowan, Shreveport.

Fifth District—Mrs. Armand McHenry, Monroe.

Sixth District—Mrs. A. W. Martin, Bogalusa.

Seventh District—Mrs. T. H. Watkins, Lake Charles.

CHAIRMEN OF STANDING COMMITTEES

Organization—Mrs. Roy Carl Young, Covington.

Program—Mrs. Aynaud F. Hebert, 2617 Napoleon, New Orleans.

Finance—Mrs. J. E. Heard, 3455 Coldwell Street, Shreveport.

Legislation—Mrs. Clarence Lorio, 1431 Convention Street, Baton Rouge.

Public Relations—Mrs. Walter Moss, 511 Hodges Street, Lake Charles.

Hygeia—Mrs. C. P. Gray, 115 Louisiana Avenue, Monroe.

Revisions—Mrs. John L. Scales, 2782 Fairfield Avenue, Shreveport.

Printing—Mrs. Robert Simmons, 759 Stephenson Street, Shreveport.

Press and Publicity—Mrs. Robert T. Lucas, 535 Pierre Mont Road, Shreveport.

Doctor's Day—Mrs. T. Aubrey White, 2613 Vance Avenue, Alexandria.

Archives—Mrs. Chaille Jamison, 1524 Seventh Street, New Orleans.

Exhibits—Mrs. George Feldner, 3814 Louisiana Avenue Parkway, New Orleans.

Indigent Physicians' Fund—Mrs. Isidore Cohn, No. 2 Everett Place, New Orleans.

MEDICAL ASSOCIATION ENTERTAINS

The Shreveport Medical Association entertained the woman's auxiliary with a beautiul dinner at the Shrine Club on Cross Lake, August 9.

Guests were served at small tables centered with decorative low bowls of pink zinnias.

Dr. Paul D. Abramson presided and after dinner turned the meeting over to Dr. Robert Lucas, who acted as chairman for the program committee. Assisting Dr. Lucas were Mrs. Robert Lucas, Dr. and Mrs. Ralph Riggs and Dr. and Mrs. E. L. Gill.

After dinner the guests enjoyed a spelling bee and later bingo was played. Several prizes were awarded.

Special guests for the occasion were Mayor and Mrs. Sam S. Caldwell. More than eighty physicians and their wives attended the affair.

BOOK REVIEWS

Essentials of Psychiatry: By George W. Henry. Baltimore, Williams & Wilkins Co., 1938. Pp. 465. Price, $5.00.

This volume is the third edition of an introductory text of psychiatry which has undergone thorough revision and considerable elaboration in order clearly to present the broader aspects of psychiatry to student and practitioner. A formal presentation of the development of the average human personality affords an introduction to the more classical aspects of clinical psychiatry which are presented from a broad, yet dynamic, point of view. The individual psychoses and psychoneuroses are presented without emphasis upon rigid formulae, and the necessity of the study of the individual patient, as well as the disease, is repeatedly stressed. The chapter upon classification follows the outline of American Psychiatric Association in its general plan, with a parallel presentation of ergasiology added in concise manner. Of interest are chapters upon psychiatric nursing, psychiatric social service, normal psychopathology, mental hygiene, as well as the disorders of childhood.

The text may well serve as a basic text for nurses, social service workers in psychiatry, the general practitioner engaged in recent psychiatric reorientation, and for students of medicine as a preliminary introductory volume.

M. I. Tuchler, M. D.

Sulfanilamide Therapy of Bacterial Infections: By Ralph R. Mellon, M. D., Dr. P. H., Paul Gross, M. D., Frank B. Cooper, M. S. Springfield, Ill., and Baltimore, Chas. C. Thomas, 1938. Pp. 398. Price $4.00.

This is an excellent book dealing with the work done to date on sulfanilamide and related compounds. The work of the authors naturally takes a prominent place and occupies much of the text.

Section one is a review of earlier literature dealing with the chemistry and pharmacology of the sulfonamide compounds and their experimental and chemical employment. Some important conclusions are: (1) Therapy with sulfonamide compounds is associated with a definite hazard of unfavorable collateral reactions, some of which, unless carefully watched and controlled, may become as serious as the primary disease. There have, however, been only 10 fatalities reported as associated with this form of therapy in approximately 4,000 cases. There appears at present no correlation between these reactions. (2) The conjugated form of sulfanilamide was thought to be more bactericidal than free sulfanilamide, but both were more effective in alkaline than acid urine, in the treatment of urinary infections. (3) The oral administration of sulfanilamide to normal individuals and monkeys appeared to cause a considerable enhancement of the natural bacteristatic power of their blood, whereas the normally low bactericidal property of the blood of the smaller experimental animals was influenced very little by either the direct in vitro addition or by the oral administration of sulfanilamide.

Conclusions on the chapter entitled, "Chemotherapeutic Results with Reference to Streptococcal Infection in Man" are: (1) The diverse clinical manifestations caused by the hemolytic streptococcus, regardless of the organs affected or the severity of the attack, have yielded to the sulfonamide compounds in a uniformly satisfactory fashion. (2) Not only has the mortality been convincingly reduced in its more malign manifestations, but in those more difficult to assess with this sole criterion, the course and complications of the diseases have been profoundly modified. Never before in the history of medicine has there arisen so quickly and from as many sources, so voluminous a literature relative to a new line of chemotherapeutic endeavor and this literature is excellently covered.

Chemotherapeutic results with reference to other infectious processes in man namely, gonococcal infections, meningococcal infections, urinary tract infections, skin lesions, arthritis, staphylococcal infections (other than urinary) are outlined. The results obtained in staphylococcal infections other than the urinary tract do not compare favorably with those obtained in pure streptococcal infections. Nephritis associated with disease, and considered as a result of that disease is discussed and favorable results are obtained. The sulfonamide compounds have shown in their therapeutic action a broad coverage of pathogenic bacteria, having been employed successfully against such diverse infections as those caused by gonococci, meningococci, pneumococci, B. welchii, and (in urinary tract infections only), B. coli and staphylococci. The highly specific action upon streptococcal infections is stressed. Few favorable reports of gas gangrene, certain skin diseases, quartan malaria await confirmatory evidence of a larger number of cases. Difficult of evaluations as distinctly unfavorable are the reports dealing with typhoid and undulant fever, non-hemolytic streptococcal infections, infectious arthritis, Hodgkin's disease, filariasis and other conditions of uncertain etiology.

Section II deals with the bacteriostatic effect of sulfanilamide in vitro and the results of therapy with sulfonamide compounds on streptococcal and pneumococcal infections in laboratory animals, together with their observations on the clinical use of these compounds in pneumonia and in streptococcal meningitis. Salient points are (1) strong protective action of sulfanilamide when administered to mice that have received infective doses of hemolytic streptococci ranging from 10 to 1000 M. L. D. Protection was afforded against cultures of high and moderate virulence, and could be demonstrated equally well in splenectomized and normal mice. (2) Observation that the therapeutic results obtained in experimental type III pneumonia in rats were duplicated in type III pneumonia in man suggests the application of sulfanilamide therapy in treatment of human penumonia either as an adjuvant to specific serum therapy or when serum is not available as the sole agent of medication.

Section III deals with factors conditioning the mode of action of the sulfanilamide compounds and with the mobilization of the host's cellular defenses. Some salient features are (1) probability that sulfanilamide is the only portion of the prontosil molecule that is therapeutically active; (2) capsulogenic theory is discussed; (3) present mode develops concentration of 1-4000. 1-10,000 in blood and small concentration 1-20,000 were effective in meningitis; (4) the bacteriostatic effect of physiologic sodium chloride when used as a dilutry menstruum; (5) potentration with reference to urine as possible explanation of good results in urinary tract presented; (6) fitness of the host, sulfanilamide and natural resistance to infection. Reinforced with vitamin C, vitamin B, liver extract and cortin, sulfanilamide's action improved in some cases.

Section IV deals with general chemotherapeutic considerations and the criteria of therapeutic efficiency as determined by host factors, experimental conditions and the variability of the infective agent with especial attention to pneumonia.

There is in the addenda a discussion of:

1. Photosensitization and the allergic-like action of sulfanilamide.
2. Control of sulfhemoglobinemia.
3. Elixir of sulfanilamide (Massengill).
4. Staphylococcal infections and the sulfonamide compounds.
5. The sulfonamide compounds and the filtrable viruses.
6. The marrow culture medium for bacteriostasis tests in chemotherapeutic studies.

The bibliography, author index, and subject index leave nothing to be desired. Every physician should avail himself of the excellent opportunity afforded by this book. A knowledge of sulfanilamide is today essential to the practice in almost all specalties and general practice.

A. L. Adam, M. D.

The Care and Feeding of Babies in Warm Climates: By Charles James Bloom, B. S., M. D., F. A. C. P. New Orleans, Pelican Publishing Co., 1937. Pp. 358. Price $2.75.

We take a certain amount of "local pride" in reviewing Dr. Bloom's book, which we feel sure will be a best seller. It is written for the mother, particularly the one who lives in the country and has no access to a competent pediatrician. Not only is it concerned with the care of the baby after its arrival, but also includes directions for purchasing the layette and necessary equipment for the infant with due regard for season and finances. We venture the opinion that no pediatrician has time to answer all the many questions which come to the mind of the mother, and in writing this book Dr. Bloom has created a fundamental manual for her guidance. One of the outstanding merits of the volume is that it tells its reader not only what to do, but also quite clearly how to do it. The chapter entitled "The Baby's Cook Book" will help many perplexed mothers who do not know how to begin to prepare the baby's first foods and what varieties to feed their older children.

Dr. Bloom has no idea of making pediatricians of mothers, but the information in his book is adequate to allay the many fears which usually arise. This work should be kept in the home for constant reference, as it contains much helpful information necessary in aiding the mother through her baby's childhood.

A product of New Orleans, this volume is nicely printed and well illustrated. We might add that all pediatricians will not agree with Dr. Bloom on many debatable questions, but surely no mother can err far from the path in following Dr. Bloom's advice.

Ruth Marks Shushan, M. D.
Morris Shushan, M. D.

Materia Medica, Drug Administration and Prescription Writing: By Oscar Bethea, M. D., Ph. G. Ph. M., F. C. S., F. A. C. P. Philadelphia, F. A. Davis and Company, 1938.

A new fifth edition of this very successful book, revised to conform to the eleventh edition of the United States Pharmacopoeia, and the sixth edition of the National Formulary, brings it right up to date.

A very practical, serviceable, and dependable work on the technic of administration of drugs, it is useful to the doctor at the bèside in working out the forms and methods for medication, and in writing prescriptions correctly and creditably. Dr. Bethea's ideal is that prescriptions should not merely be excellent, but that they should attain the acme of perfection. By the use of Dr. Bethea's book as a basis for study and practice, and by long continued effort, the medical student and the physician should be able to approximate Dr. Bethea's ideal: perfection.

Clyde J. Brooks, M. D.

Patient and Doctor: By Sir Henry B. Brackenburry, M. D., LL. D., M. R. C. S. London, Hodder & Stoughton, 1935. Pp. 280. Price 5 shillings.

Brackenbury's book written in an effort to convey to the intelligent layman some knowledge of the development of modern medicine, the present status of medical practice, and the development of medicine in the future, may be recommended with reservations.

While the chapters which deal with the current relationship of doctor to state and to patient, and that which dwells upon the relationship of doctor and patient to hospital refer too specifically to conditions existent in Grent Britain, a successful attempt is made to bring to the uninitiated an appreciation of some of the professional, social, and economic problems that confront the modern physician.

This book may be profitably read by physician for the light it throws upon trends in socialized medicine. The generalizations upon the necessity of preserving the existing relationship between patient and doctor are commendable. The need for the doctor's cooperation with the state is emphasized, and should be more clearly appreciated and more widely accepted.

B. B. Weinstein, M. D.

Text-book of Pathology: By E. T. Bell, M. D. 3rd. ed. Philadelphia, Lea & Febiger, 1938. Pp. 894. Price $9.50.

This is a good practical book on general pathology. The style is direct, clear and brief. This work will continue to be a standard text-book and reference on pathology.

J. G. Pasternack, M. D.

Practical Bacteriology, Haematology and Animal Parasitology: By E. R. Stitt, M. D., Sc. D., LL. D., Paul W. Clough, M. D., and Mildred C. Clough, M. D. Philadelphia, P. Blackiston's Son & Co., 1938. Pp. 961. Price $7.00.

The 9th edition of the valuable vade mecum is most welcome. It is encyclopedic in scope, scientific in method and highly instructive in its correlation of laboratory data with the clinical picture. The index is thorough and complete.

J. G. Pasternack, M. D.

Preface of Nervous Diseases: By Stanley Cobb, A. B., M. D. Baltimore, Wm. Wood & Co., 1938. Pp. 173. Price $2.50.

This volume, dedicated to William Gordon Lennox, colleague, critic, and friend of the author, is a timely, well prepared and excellently presented treatise on the preface of nervous disease. The author clearly states it is a preface, should be accepted and assimilated as such. However, it is more than that to those interested in neuropsychiatry, psychobiology, psychology and allied sciences. It can be used by students during their various periods of scholastic learning and by the graduate following in his professional career. The subject matter is made clear and is an understandable presentation.

This book is especially recommended to those whose life's work deals with the vagaries of human nature, unusual and misunderstood conduct reactions and illness akin to the mental mechanisms and the nervous system.

It is an excellent vade mecum for the intern and hospital house officers.

WALTER J. OTIS, M. D.

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CALLED MEETING OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

In compliance with the official request of members of the Board of Trustees that the House of Delegates be convened in Special Session, I, as Speaker, under authority of Chapter III, Section 2, of the By-Laws hereby officially call the House of Delegates of the American Medical Association to convene in Special Session in the City of Chicago, State of Illinois, at 10:00 a. m., Daylight Saving Time, on the sixteenth day of September, 1938.

The business to be transacted at this Special Session shall be limited to the consideration of the national health program submitted to the National Health Conference recently held in Washington and to such other matters as may be submitted to the House of Delegates by the Board of Trustees.

The House shall remain in session, recessing from day to day, until its deliberations are concluded.

H. H. SHOULDERS, M. D., Speaker.

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INSULIN ALLERGY

REPORT OF SEVERE CASE WITH SUCCESSFUL DESENSITIZATION*

ARTHUR A. HEROLD, M. D.
SHREVEPORT

The literature abounds with reports of reactions of various kinds following the hypodermic administration of insulin, but most of these refer to local or systemic manifestations of sensitivity to the protein of the animal or animals from which the special preparation is prepared; for example, I have, at times, noted local urticarial wheals in patients taking a certain lot of insulin of a certain manufacturer, this reaction being avoided by changing to another make or another lot number.

Allergists have been quoted as saying that allergic individuals do not contract tuberculosis nor develop diabetes mellitus, but I suppose "exceptions prove the rule", for there have been a few instances reported wherein a person has been sensitive to the insulin unit itself, and insulin being a protein in nature, these reactions are protein allergy. Joslin, however, does not agree with this view and states: "Associated diseases, notably allergy, tuberculosis and epilepsy, are prone to occur in diabetics. Allergy has been demonstrated by Kern to recur frequently in diabetic families . . . . Eight of our children have had asthma."[1] Joslin refers, also, in the same book, to cases wherein patients are sensitive to insulin of one or more manufacturers' products and not another. This is not true insulin allergy, but, as stated above, is due to the foreign protein.

Allan and Sherer report a number of cases of insulin allergy, varying from mild local to severe systemic manifestations, they concluding: "If there is no type of insulin free from allergic effect, attempts should be made to bring about desensitization by beginning treatment with minimal dosage and increasing the amount gradually . . . The occurrence of allergic manifestations after treatment with insulin throws some light on the nature of the hormone. It indicates that the protein of animal insulin is different from the protein of human insulin . . . and suggests that the pancreatic extracts contain another pancreatic protein besides insulin."[2] This last statement does not solve the trouble in the case which I shall report, as the patient was markedly sensitive to all forms of insulin, including the crystalline product.

Bayer reports a severe allergic phenomenon developing in a patient who had been taking insulin for some time and who was temporarily desensitized in one day with gradually increasing dosage, given at intervals of a few minutes. She concludes: "Insulin allergy, although rare, may present a very urgent problem when it occurs."[3] Collens, Lerner and Fialka report a quick therapeutic result from repeated ingestions of histamine phosphate.[4] Lewis concludes: "(1) Insulin protein is an active antigen; (2) since insulin protein does not react in common with pancreas protein, its specificity is independent of that of the major constituents of the pancreas; (3) insulin proteins from different animal sources are immunologically closely related."[5]

Following a suggestion from Russell M. Wilder[6], I consulted the well-known allergist, F. M. Rackeman[7] relative to my problem; he referred me to Lewis' article, quoted above, and suggested gradual desensitization as the only way, advising that the intravenous route is the best method of producing the result rapidly, but warning that it is more dangerous.

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 4, 1938 at New Orleans.

Joslin and Marble[8], of the Joslin Diabetic Clinic, were kind enough to make several valuable suggestions, including information and advice relative to crystalline insulins.

CASE REPORT

H. L. H., aged 23, a robust, muscular young man, had been allergic since childhood, after having attacks of asthma and urticaria. In 1930, he was thoroughly tested by B. G. Efron of New Orleans, who found him sensitive to house-dust, woolens, sea food, cheese and various vegetables; since eliminating them as far as practicable, he had been almost entirely free from these troublesome conditions. In March, 1937, it was noted that he was rapidly losing weight and so, with a family history of diabetes, a specimen of urine was requested, it showing heavy with sugar and with a fasting blood sugar of 220 mgm. Being anxious for him to regain some weight, an appropriate diet was prescribed and twenty units protamine insulin given every morning. He got along very well until after he had taken twelve doses, when he awakened one morning with urticaria, generalized, with marked swelling of the face.

At this time, I was in St. Louis, attending a meeting of American College of Physicians and I was informed of the reaction. I consulted Wilder, who referred me to Lloyd L. Ely of Frederick Stearns & Company, who was kind enough to have a supply of Stearn's crystalline insulin sent to me, he feeling that this would best serve my purpose. In the meantime, I advised that the protamine insulin be discontinued, but this had already been done by an associate, who tested the patient with a minute dose of regular insulin, which produced a marked wheal. When I received the crystalline product, I personally administered twenty units of it, with confidence, feeling that this was the ideal preparation for him. In 15 minutes, I was called back to the patient and found him with urticaria, swelling of head and face, and itching; I administered 0.5 c.c. epinephrine and advised soda baths. As soon as the epinephrine effect wore off, the rash returned and was accompanied by asthmatic wheezing and a choking sensation, which became less marked after another subcutaneous dose of epinephrine. In about 30 minutes, all these symptoms again recurred and were worse than ever; this time the hypodermic dose did not produce results and the patient became frantic; we then gave him ½ c.c. epinephrine solution intravenously, causing quick subsidence of symptoms. However in 45 minutes more, the attack recurred for the fourth time and again the intravenous route was necessary. By this time, the patient was exhausted and he was so trembly from the epinephrine that it was necessary to administer ¼ grain morphia. During the balance of the day, he had only mild attacks and no further medication was given.

Following this experience, I advised Ely of the unusual sensitivity and he agreed with me that the patient must be allergic to the insulin molecule, and he suggested trying desensitization.

I reported the matter, also, to Weaver of the Lilly Research Laboratories, following which the laboratory sent me a lot of regular insulin made from beef pancreas, one made from pork and one lot of crystalline insulin. I tested the patient by giving 0.05 c. c. of each, intracutaneously, in the forearm; he soon got a decided wheal about each test, followed in about ten minutes by the same severe systemic reactions which he had exhibited following the therapeutic dose of crystalline insulin. It was necessary to administer four doses of epinephrine (one intravenously) and also the one dose of morphia, following which the patient was completely exhausted.

METHOD OF DESENSITIZATION

I then realized that, if insulin therapy was necessary, it would require careful desensitization. After trying other therapeutic measures for several months without any gain of weight or strength, I started the desensitization, very cautiously, viz:

BOTTLE 1

Date	c. c.		Unit
12/15	—0.1	=	1/250
12/16	—0.2	=	1/125
12/17	—0.3	=	1/83
12/18	—0.4	=	1/62
12/19	—0.5	=	1/50

1 c.c. = .04 unit regular insulin.

BOTTLE 2

Date	c. c.		Unit
12/20	—0.05	=	1/50
12/21	—0.1	=	1/25
12/22	—0.2	=	1/12
12/23	—0.3	=	1/8
12/24	—0.4	=	1/6
12/25	—0.7	=	7/25

1 c. c. = .4 unit regular insulin.

BOTTLE 3

Date	c. c.		Unit
12/26	—0.08	=	1/3
12/28	—0.08	=	1/3
12/30	—0.1	=	2/5
1/1	—0.15	=	3/5
1/3	—0.2	=	4/5
1/5	—0.25	=	1
1/7	—0.3	=	1.2
1/9	—0.4	=	1.6
1/11	—0.5	=	2

1 c.c. = 4 units regular insulin.

BOTTLE 4

Date	c. c.		Unit
1/13	—0.05	=	2
1/15	—0.08	=	3.2
1/17	—0.1	=	4
1/19	—0.15	=	6
1/21	—0.2	=	8
1/23	—0.25	=	10
1/24, 1/25	—0.25	=	10
1/26, 1/27, 1/28	—3.0	=	12
1/29, 1/30	—0.35	=	14
1/31, 2/1-2/9 dly.	—0.4	=	16
2/10-2/16 dly.	—0.45	=	18
2/17-2/26 dly.	—0.5	=	20
2/27-3/1 dly.	—0.6	=	24

1 c. c. = 40 units regular insulin.

The reaction from 1/3 unit on December 26 was rather severe and required epinephrine; after that, I gave the doses every second day, instead of every day, until we arrived at dosage of real therapeutic value.

It will be noted that, as the desired dose was reached, I became more cautious about increasing, especially if slight local reaction was noted. Twenty-four units seemed to give the desired effect, in so far as the quick results of standard or regular insulin are concerned, but, as usual with this quick-acting preparation, it would spend itself in six to eight hours and the patient would be unprotected the rest of the time. Hence, I considered it advisable to shift him over to protamine zinc insulin, but I did so with some trepidation, as the protamine oil is a fish derivative and the patient is known to be allergic to sea food. However, this is my record:

Date	c. c.		Unit
3/2	—0.6	=	24
3/3	—0.6	=	24
3/4-3/11 dly.	—0.55	=	22
3/12	—0.55	=	22
3/13-3/20 dly.	—0.45	=	18
3/20-4/15 dly.	—0.6	=	24

Protamine zinc insulin — 40 units to c.c.

Since dropping back after each evidence of reaction, I have been enabled to increase back to the 24 units, which he now tolerates well and which gives satisfactory results for the diabetic condition. I might add, in passing, as a matter of interest, that, after noting the local reactions from the protamine zinc insulin, I tested him intracutaneously with both the regular and the crystalline preparation of Stearns and that he showed definite sensitiveness to both of them, more marked with the regular, which he had taken routinely before. However, as he showed skin reactions to both of them more marked than had been observed with the protamine zinc insulin, I decided it would be wiser to continue him on the latter.

As a precautionary matter, during the entire desensitization process and even up to the present time, I fill the needle with 1:1000 epinephrine solution before drawing up the insulin, and I feel that thereby I have avoided more reactions of the allergic kind.

SUMMARY AND CONCLUSIONS

1. It has been clearly demonstrated that there are two kinds of allergic reactions possible with insulin therapy, for example: that due to the protein of the animal from which the substance is extracted and that due to sensitivity to the insulin protein molecule, the latter being more serious and harder to overcome.

2. Properly administered, epinephrine solution is the "sheet anchor" in allergic manifestations.

3. Patients sensitive to the insulin molecule are allergic, in varying degree, to all insulin preparations.

4. With proper care and patience, it is possible satisfactorily to desensitize even the severe "reactors".

5. When an allergic individual is taking one

kind of insulin satisfactorily, caution should be used in changing the type and the change should never be made without first testing for sensitivity.

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DISCUSSION

Dr. B. G. Efron (New Orleans): Opinion differs widely as to the incidence of insulin sensitivity. Published reports give an incidence that varies from .004 per cent to 14.5 per cent. The reaction observed may be local or constitutional. The local reactions are characterized by swelling, redness, and itching. Urticaria is the usual type of constitutional reaction. Of 100 cases of insulin reaction reported from the Mayo Clinic, 84 were mild local reactions, 12 were severe local reactions, and only four were constitutional reactions. None of the cases reported from the Mayo Clinic had as severe manifestations as the case reported by Dr. Herold.

Most reactions to insulin have occurred in diabetics who were without personal or familial history of allergy. The incidence of allergy in diabetics is quite small. Insulin sensitivity has been reported by Sammis in a non-diabetic patient who was a known allergic. Sammis' patient was sensitive to beef, sheep, and synthetic insulin. The only case of insulin hypersensitivity I have observed personally was in a diabetic who was sensitive to all types of insulin, and whose symptoms were manifested by urticaria. Sensitivity to insulin may be limited to one type, such as beef insulin, and changing from beef to pork or sheep or crystalline insulin is all that is required in such cases in the way of treatment. On the other hand, when sensitively to insulin exists, regardless of its source, as in the case presented, and insulin is required to control the diabetes, a very important therapeutic problem becomes manifest. Kaufman reported the desensitization of three cases by one or two intracutaneous injections of 4 to 6 units. About five years ago, Bryce reported successful desensitization of an insulin sensitive diabetic by gradually increasing doses until the required daily dose was given. This observation, together with fact that such a procedure is the one which is used in routine allergic practice, prompted me to recommended to Dr. Herold the technic which he described.

With reference to getting severe systemic reactions which require epinephrine, epinephrine should be given immediately by every possible route, starting with ½ c. c. or 1 c. c. hypodermically; then if necessary, intravenously. There is another drug, aminophylline which proves of great value in controlling some allergic manifestations. Aminophylline can be given either in 4 mg. or 7½ mg. doses intravenously. If the latter is used it must be diluted to 10 c. c. and very often it will stop some allergic reactions that adrenalin has failed to check.

Dr. Randolph Lyons (New Orleans): I was very much interested in Dr. Herold's case because we all treat numerous diabetics, and since the advent of insulin, naturally, I have used it constantly but have never seen a case such as he described, which shows how rare such severe reactions must be, fortunately for us and our diabetic patients. We have all had local reactions. I would like to know if he has any statistics on how frequent such cases are? I cannot say how many cases I have treated with insulin, certainly a great many, but I have yet to see one like his.

Dr. Herold certainly deserves credit for the care with which he desensitized the patient. I would have felt shaky about giving the patient insulin, even in small doses, after such a severe reaction.

Dr. A. Herold (In closing:) Dr. Rackeman advised desensitization preferably by the intravenous route, but warned that it was more dangerous. And I noticed that Dr. Bayer in the Journal of the American Medical Association reports a patient desensitized in the course of a day.

There have been several cases reported, but I do not suppose anyone had a worse case than mine.

A lady from New Orleans who was very sensitive to all types of insulin was in Joslin's clinic a few years ago and got some crystalline insulin; it was the only kind of insulin she could take. I tried crystalline insulin put out by the same pharmaceutical house and it caused urticaria and the other allergic manifestations.

CAUSES OF BLINDNESS IN LOUISIANA

A REVIEW OF SEVEN HUNDRED CASES*

H. F. BREWSTER, M. D.
NEW ORLEANS

In this review, a person is considered industrially blind who has vision in the better eye with correcting glass of 20/200 or less or a disqualifying visual field defect. Also, this group includes only indigent persons between the ages of 16 and 64 who are residents of this state and which group is defined and provided for by the cooperating Federal and State Social Security Act. About a year ago this study was initiated and carried on by the cooperative efforts of the Federal and State governments through the direct supervision of the Louisiana State Department of Public Welfare. The primary object of this study was to provide necessary relief to the indigent blind coming in this special classification. The survey is still in progress and the total number of cases in this category will far exceed this present number. It is also necessary to stress the fact that this number and survey does not include innumerable blind people falling into other age and economic groups. While the immediate objective of this work has been to provide relief for people badly in need of help, its ultimate goal should and must be so effectively to prevent blindness in all classifications that expenditures for these unfortunates can be gradually reduced to a minimum.

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 3, 1938 at New Orleans.

To contribute to the usefulness and effectiveness of statistical data on blindness accumulating in our nation, I have used the etiologic and topographic classification of the Causes of Blindness adopted by the American Society for the Prevention of Blindness and by the American Academy of Ophthalmology and Otolaryngology. While such a classification is useful, is a step forward and should be generally adopted, it does not provide the flexibility necessary to convey the full story in all cases of blindness. In the great majority of cases the cause of blindness is multiple and often far-reaching, there being in some instances five or six contributing factors, each doing its share of destruction. Also, I would stress that at times the causes of blindness in one eye are very different from the causes in the other eye and, therefore, should be classified differently. The statistical data collected from this first seven hundred cases will now be stated. I estimate that 73 per cent of these blind cases could be prevented.

CAUSES OF BLINDNESS

Topographic and Etiologic

Hypertension (glaucoma)			76
Refractive errors			13
Myopia:			
Due to syphilis		1	
Toxic poisonings (not specified)		1	
Congenital		7	
Not specified		4	
Motor anomalies			
Development anomalies			17
Albinism (congenital)		2	
Anophthalmos (congenital)		1	
Megalophthalmos (congenital)		2	
Microphthalmos (congenital)		12	
Degenerative changes			46
Phthisis bulbi		29	
Gonorrhea	10		
Meningitis	2		
Syphilis	4		
Pneumococcal ulcer	1		
Gunshot wounds	6		
Fireworks	1		
Etiology undetermined	5		
Other degenerative changes (specified)		4	
Gunshot wounds	3		
Consanguinity	1		
Panophthalmitis and endophthalmitis		13	
Gonorrhea	3		
Typhoid	1		
Fireworks	1		
Trauma	4		
Industrial injuries	2		
Diseased tonsils	1		
Etiology undetermined	1		
Conjunctiva			2
Pterygium		2	
Cornea			106
Interstitial keratitis (syphilis)		9	
Phlyctenular keratitis		1	
Keratitis		23	
Meningitis	1		
Smallpox	1		
Syphilis	3		
Tuberculosis	1		
Trauma	4		
Toxic poisoning (gallbladder)	1		
Toxic poisoning (not specified)	6		
Systemic diseases (not specified)	2		
Etiology undetermined	4		

Ulcerative keratitis (corneal ulcers)			62	
Gonorrhea		16		
Measles		1		
Meningitis		1		
Ophthalmia neonatorum				
Gonorrhea	26			
Other	1	27		
Scarlet fever		1		
Smallpox		3		
Syphilis		1		
Typhoid fever		2		
Fireworks		1		
Trauma		5		
Exophthalmic goiter		1		
Pellagra		2		
Vascular disease		1		
Pannus			11	
Trachoma		11		
Iris and ciliary body				97
Iridocyclitis (uveitis)			85	
Measles		1		
Meningitis		1		
Scarlet fever		1		
Smallpox		1		
Syphilis		20		
Tuberculosis		20		
Typhoid fever		4		
Gunshot wounds		11		
Fireworks		3		
Injuries (not specified)		1		
Sinuses		2		
Teeth		2		
Toxic poisonings (not specified)		10		
Faulty diet		2		
Diabetes		1		
Nephritis		1		
Etiology undetermined		23		
Sympathetic ophthalmia			12	
Gunshot wounds		2		
Trauma (specified)		5		
Injuries (not specified)		5		
Crystalline lens				109
Lens opacity (cataract)			108	
Congenital		35		
Juvenile		12		
Senile		30		
Hereditary		7		
Traumatic		10		
Diabetic		5		
Secondary to other diseases		9		
Dislocated lens (hereditary)			1	
Choroid and retina				74
Choroiditis			9	
Syphilis		3		
Hereditary origin		3		
Etiology undetermined		3		
Retinitis			2	
Diabetes		1		
Etiology undetermined		1		
Chorioretinitis			28	
Syphilis		4		
Tuberculosis		1		
Gunshot wounds		1		
Toxic poisonings (not specified)		1		
Diabetes		1		
Nephritis		1		
Congenital origin		3		
Hereditary origin		3		
Consanguinity		1		
Etiology undetermined		12		
Detached retina			5	
Syphilis		1		
Typhoid fever		1		
Trauma (specified)		1		
Injuries (not specified)		1		
Etiology undetermined		1		
Retinitis pigmentosa			30	
Hereditary origin		9		
Consanguinity		11		
Not specified		6		
Etiology undetermined		4		
Optic nerve				158
Optic atrophy			150	
Meningitis		6		
Smallpox		1		
Syphilis		58		
Typhoid fever		4		
Infections (not specified)		5		
Influenza		1		
Encephalitis		1		
Trauma (specified)		5		
Injuries (not specified)		1		
Sinusitis		5		
Carious teeth		2		
Toxic poisonings (specified)				
Malaria—quinine		5		
Toxic poisonings (not specified)		3		
Neoplasms				
Brain abscess	1			
Tumors	5	6		
Diabetes		2		
Vascular disease		5		
Non-infectious disease, central nervous system		1		
Diseases of pregnancy and childbirth		1		
Systemic diseases (not specified)		4		
Congenital origin		6		
Hereditary origin		5		

Consanguinity	1	
Etiology undetermined	21	
Multiple sclerosis	1	
Optic neuritis		3
Toxic poisoning (teeth)	2	
Banti's disease	1	
Neuroretinitis		5
Syphilis	2	
Toxic poisoning (teeth)	1	
Nephritis	1	
Etiology undetermined	1	
Miscellaneous and ill-defined		2
Pemphigus	1	
Trichiasis	1	

ETIOLOGIC FACTORS IN BLINDNESS

	No. of Cases	Percentage
Pterygium, pemphigus, trichiasis	4	
Glaucoma	76	10.9
Gonorrhea (excluding O. N.)	29	4.1
Measles	2	
Meningitis	11	1.6
Ophthalmia neonatorum	27	3.9
Scarlet fever	2	
Smallpox	6	
Syphilis	106	15.1
Trachoma	11	1.6
Tuberculosis	3	
Typhoid fever	12	1.7
Pneumococcal ulcer	1	
Influenza	1	
Encephalitis	1	
Infections (not specified)	5	
Gunshot wounds	23	3.3
Fireworks	6	
Non-industrial injuries	1	
Trauma (including burns), (specified)	34	4.9
Industrial injuries, (not specified)	2	
Injuries, (not specified)	8	1.1
Sinuses	7	1.0
Tonsils	1	
Teeth	7	1.0
Banti's disease	1	
Malaria-quinine	5	
Gallbladder	1	
Toxic poisonings, (not specified)	21	3.0
Neoplasms	6	
Brain abscess	1	
Brain tumor	5	
Senility	30	4.3
Toxic goiter	1	
Faulty diet	2	
Pellagra	2	
Anemia	1	
Diabetes	10	1.4
Nephritis	3	
Vascular diseases	6	
Non-infectious diseases, central nervous system	1	
Diseases of pregnancy and childbirth	1	
Systemic diseases, (not specified)	6	
Cataracts, secondary to other diseases	9	1.3
Cataracts, juvenile	12	1.7
Eye diseases of congenital origin	68	9.9
Eye diseases of hereditary origin	28	4.0
Eye diseases due to consanguinity	14	2.0
Not specified	10	1.4
Etiology undetermined or not specified	75	10.6
Multiple sclerosis	1	
	700	89.8

Cases responsible for 1% or more 89.8

Cases responsible for less than 1% (73) 10.2 100%

AGE AT ONSET OF BLINDNESS

Birth to 5 years	141
6 years to 15 years	62
16 years to 25 years	83
26 years to 35 years	118
36 years to 45 years	121
46 years to 65 years	175
	700

PERCENTAGE ACCORDING TO TOPOGRAPHY

	Cases	Per cent
Glaucoma	76	10.8
Phthisis bulbi	29	4.1
Corneal ulcers	62	8.9
Iridocyclitis	85	12.2
Cataracts	109	15.4
Chorioretinitis	28	4.0
Retinitis pigmentosa	30	4.3
Optic atrophy	150	21.3
All other diagnoses	131	19.0
	700	100.0

DEGREE OF VISUAL ACUITY

Group I.	No light preception	311
Group II.	Only light preception	175
Group III.	Hand motion	43
Group IV.	Finger count	114
Group V.	20/200	45
Group VI.	20/200 but with field constriction	12
		700

CASES OF CONGENITAL SYPHILIS

1. Choroiditis, blind from infancy.
2. Interstitial keratitis, blind from birth.
3. Congenital cataracts, blind from birth.
4. Interstitial keratitis, blind from youth.
5. Blind from congenital lues—no diagnosis given.

6. Phthisis bulbi, blind at age of seven years.
7. Gonorrheal ophthalmia, blind from birth and has congenital lues.
8. Congenital cataracts, blind since three months old.
9. Interstitial keratitis, blind since age of four years.
10. Juvenile cataracts and congenital syphilis. Blind at 16 years.
11. Chorioretinitis, blind from birth.
12. Phthisis bulbi and iridocyclitis, blind from youth.
13. Chorioretinitis, blind from infancy.
14. Interstitial keratitis, blind since 23 years (also is deaf).
15. Congenital syphilis and optic atrophy.
16. Gonorrheal and congenital syphilis, blind from birth (two patients).
17. Uveitis, blind from childhood.
18. Optic atrophy, blind at 12 years of age.
19. Uveitis, blind from infancy.
20. Phthisis bulbi, blind at eight years.
21. Interstitial keratitis, blind at 13 years.
22. Chorioretinitis, blind at four years.
23. Keratitis, blind at 13 years.

OBSERVATIONS AND RECOMMENDATIONS

Syphilis caused 15.1 per cent blindness in this group, or 106 out of 700. Syphilis is ravaging our nation and we must wage a relentless, fierce fight against this disease. It must be looked upon as a menace to personal and public health and there must be laws enacted and enforced to compel all people with the disease to receive adequate treatment whether or not they personally want it. A Federal law should cover this lax situation. Night clinics must be opened and kept open for diagnosis and treatment and a very efficient follow-up system to insure complete treatment.

Glaucoma caused 10.9 per cent blindness, or 76 out of 700. A widespread alertness for the earliest detection of glaucoma must be maintained. A system of study and observation must be instituted and developed to detect the preglaucomatous patient long before the active onset of the usual revealing signs and symptoms. Ocular tensions must be recorded on a far greater percentage of patients in both private and clinical practice. Special subdivisions for glaucoma patients should be set aside in our clinics and adequate contact and follow-up maintained through trained medical social workers. There should be national coordination and cooperation of these special clinical groups in order to facilitate and accelerate treatment and investigation of this disease group.

Congenital Defects and Hereditary Deficiencies: This group contributed 13.9 per cent and constitutes one of the most hopeless and pitiful groups encountered. Many times generation after generation of the same defects have been handed down through as many as eight almost identical children to the family. The great majority of these are also deaf and dumb, many are feebleminded and most of them reveal endocrine disturbances. Who will solve this very vital problem?

Consanguinity contributed 2 per cent of blindness and such relations must be generally condemned. Where degeneracy exists fertile unions must be prohibited at all costs, as it is accentuated in the offspring.

Gonococcal infections in the eyes caused 4.1 per cent of blindness, chiefly in the infant and very young child. The same statements made about syphilis can also apply to gonorrhea. There must be more rigid supervision of childbirth and prophylaxis and treatment at birth. Non-medical practitioners doing obstetrics must be gradually eliminated.

Cataract must be regarded as a chronic progressive disease. A marked change in our attitude toward and a much more energetic handling of these cases will result in stopping the progress of some, inhibiting or slowing down the progress of others and in all cases the general health can be improved and the internal structures of the eye protected and kept healthy. In most cataract cases, as in dozens of other eye diseases, an early diagnosis is impossible through a small pupil. Early diagnosis is extremely important in dealing with the eye as damage is permanent in the highly specialized, delicate visual apparatus. Therefore, in most cases, a complete eye study is impossible and sadly inadequate unless the pupil be dilated.

Crossed Eyes: Every infant and young child should be watched for crossing of the eyes and if such a tendency should persist to the twelfth month an eye physician should be consulted. Early treatment after careful study should greatly reduce the number going to operation later and preserve many useful eyes that would otherwise go blind. The old advice to "let the child grow out of it" cannot be too strongly condemned.

The Eye as Revealer of Distant or General Disease: A great number of general and often serious diseases are frequently detected first by a careful and complete eye examination with enlarged pupils. A hasty or incomplete examination would fail to reveal these telling signs and be the means of the patient suffering great damage or even death. The eye physician also frequently gleans impressions of anemias, anxiety neuroses, inattention, characteristic breath odors, manner of locomotion and a thousand other defined and undefined characteristics and impressions which lead to valuable and timely suggestions to the patient and to his family physician.

On Diet Generally: Inadequate, insufficient and improper diet is contributing heavily not only to causes of blindness but to many other diseased conditions, physical debility, poor bone and muscle development, retarded mentality and lack of ambition. This is resulting from a combination of poverty, ignorance, laziness, poor heredity and the disposition of so many people today to sit around and depend upon or even insist that the government provide them and their innumerable offspring with every facility and accessory to live and multiply. Nothing can contribute so much to health as a good, well-balanced, adequate diet constantly consumed.

Eye Symptoms Generally: Eye symptoms may be purely local and readily identified with the eye or they may be referred to very distant regions strongly suggesting diseases in these localities. The onset of any symptoms calls for the services and best judgment of a physician skilled in diagnosing and evaluating conditions of the eye and associated structures. Disease both local and general must be carefully looked for and the proper measures instituted. Over a hundred diseases affect the eye and proper treatment may lead to the application of nearly all known medical therapeutic procedures, appliances and medications. The question of glasses, while important, should be relegated to the bottom of the list where it rightfully belongs and glasses should be prescribed only after a most careful medical survey.

Increase of Old People: The relative increase in the number of old people in the population introduces new problems and greater responsibility in safeguarding the health of the eyes. Preventive medicine and public health must unravel the mysteries and apply the preventives for the ever increasing degenerative changes and diseases.

Prevention of Blindness: The eye being a highly specialized delicate organ of the body subject to over a hundred diseases and capable of being severely damaged by remote bodily ailments and subject to ravages by inadequate diet, anemias, endocrine disease and a thousand other factors, its proper care is a grave medical problem to be conducted by members of the medical profession. The prevention of blindness is a formidable task of preventive medicine. Education of the public is the greatest and most pressing need. Protective measures must be instituted before birth of the child and in some instances even before marriage and reproduction be permitted. Trained medical social workers must be provided. Sight-saving classes in schools, while laudable, are evidence of failure effectively to prevent blindness.

Hasty School Eye Examinations: Realizing that an eye can see 20/20 and still contain revelations of local or general disease which may lead to blindness or even death, hasty, casual visual testing is to be condemned. Rather, have every child's eyes examined by the family's eye physician before beginning school and at intervals thereafter as directed by the eye physician.

Public Education: The public must be informed and constantly reminded that the eye is a very delicate organ, an inseparable part of the body the same as the heart, brain, lungs, kidneys or any other vital organ; that it is subject to a very great number of diseases; that eye symptoms may signify a need of glasses, but far oftener it means eye disease or general body disease for which glasses can do little or nothing. Glasses represent only one small part of eye care when the problem is viewed intelligently and scientifically. The eye needs the very best of medical services and attention and its proper care must be harmonized with the entire body mechanism.

Hospitals and Clinics: Not enough hospitals and few clinics in the United States have adequate equipment and facilities with personnel properly to care for eyes. There is not in Louisiana today a single eye clinic properly equipped to do first quality eye work. Some of our so-called best hospitals through ignorance and indifference fail even now to provide the facilities and specially trained personnel necessary to perform safely operations and to conduct other procedures for eye patients. These hospitals should be removed from the accredited list unless they remedy both their attitude and facilities. Next to life itself, human vision is our most cherished possession. Eye clinics should be established in all our new hospital units over the state to care for the indigent only.

Training Eye Physicians and Surgeons: There must be a great increase in the number of first class postgraduate schools for training eye physicians in the United States. These schools must be under the direct supervision of the medical universities and must be so organized as to be thorough, adequate and uniform. These schools must have complete equipment and meet all requirements of a board of review. Candidates who have spent two years in a general hospital or a few years in general practice of medicine after obtaining a bachelor's degree and the degree of doctor of medicine are to be favored. No candidate over 40 years of age should be admitted.

Teaching the Medical Student: Even while taking the regular medical course of four years the student should be taught with greater emphasis than heretofore the great importance the eye should, and will in the future, play in the diagnosis, treatment and prognosis of local and general diseases and in the great body of ill-defined degenerative changes. He must be impressed with the delicacy, complexity and vulnerability of this open book to greater search and knowledge in benefit to his patients. He must get the lasting impression that the eye is intimately a part of the whole body reacting to disease and body ailments the same as any other organ or region of the body.

Nurses, Teachers and Social Workers: The general nurse, public health nurse, industrial nurse, school teacher, social worker and medical social service worker should be more carefully and thoroughly instructed in matters pertaining to the eye. They must realize that the eye is a highly complex organ richly supplied with nerves and blood, subject to many dozens of diseases which may lead to great handicaps, or death. They must realize that eye symptoms call for medical investigations and meticulous search by the eye physician for local and general disease as the first step in proper eye care.

Insurance Companies and Employers: All such persons and agencies must come to realize that a thorough health examination cannot but include a careful external and internal examination of the eyes by a competent eye physician, who alone is competent to diagnose, correlate, treat and prognose the many local and general diseases affecting the eye. An enlarged pupil will so frequently reveal otherwise hidden constitutional disease, early cataracts, cardiovascular disease, renal disease, endocrine and metabolic diseases, systemic toxic states and general degenerative changes, together with many other conditions. Many of us are daily shocked when we look into the fundi of persons occupying positions of grave human and financial responsibility who have that day or recently been pronounced in perfect health by the insurance or employment examiner in all honesty and completeness. The future of medicine will bear out the significance of this paragraph.

Titles and Identifying Names: The public has a moral, legal and ethical, as well as humane right, to know and tell at once by the title whether a man or woman serving the eyes is a doctor of medicine or is one of the non-medical practitioners. The present confusion must be clarified in the interest of human patients and human eyes as well as in the interest of common honesty and progress. The initiative in this matter would be a graceful gesture on the part of those who have erroneously assumed titles to which their claim cannot justly be defended.

Glasses:It is to be deplored that close to 50 per cent of the glasses sold in this section of the country are second and third grade glasses, most of which are unfit for human use. We must place the control of glasses in the same law as the Pure Food and Drug Act, and provide for the exact, clear and permanent labeling of the quality of all glasses sold to individuals and the buyer must know the quality actually purchased. For falsifying in these matters criminal penalties of great severity must be provided. Facilities for free testing of lens quality must be provided. Most so-called smoked glasses are horribly distorted and provide potential damage to the eyes and contribute to the number of automobile and other serious accidents and deaths annually. All such cheap imperfect glasses must be excluded entirely from any possible sale to public or person. Perfect ground, smoked or tinted glasses made by ethical houses are available at small cost and will become cheaper. Too many people in our country wear glasses of inferior quality. Only first quality glasses should ever be sold.

Commercializing the Eye: Radio, magazine, billboard and showcase exploitation of the human eye has about reached its ultimate climax. It is time that an informed and aroused public regulate or eliminate the commercialization and exploitation of a human organ so vital to life and happiness.

Manufacturers and Distributors of Glasses: There are highly ethical, honest, dependable, cooperative and progressive manufacturers and distributors who are doing all they can to elevate the general standards in merchandising eye glasses. Some of these present constructive pages in our large magazines in a laudable effort better to serve our population. These concerns deserve great praise and increased prosperity. Their leadership must be strengthened and their morale supported. The dishonest dealers and manufacturers who reap fortunes over blind human bodies must be ruthlessly destroyed.

THE EYE AND EAR IN INDUSTRIAL AND SOCIAL LIFE*

DORF BEAN, M. D.
SHREVEPORT

In selecting this subject for presentation, I had hoped to get something different from the usual eye, ear, nose and throat paper of our southern section, and I feel that in a way I have succeeded; however nothing in my discourse is original, everything being taken from past records, statistics and papers. In the preparation of this article I was amazed at the great amount of material available, and I have only attempted to cover briefly and in a more or less general way some of the more vital points as I see them.

THE EYE

In every type of industry, except the blind trade schools, the vision is of vital importance. Practically all companies at the present time have all workers examined before their services are accepted and regular examinations given frequently to see that proper physical standards are maintained. If a prospective worker has poor vision he or she certainly has much more difficulty in securing a position. In every kind of factory or machine works, the individual who does not see normally becomes a serious menace to others in the same working area, and most likely to suffer injury of self, seriously or even fatally.

Stereoscopic vision is so valuable that persons with one eye must be excluded from many kinds of work, such as engravers, goldsmiths, airplane pilots, railroad employees, chauffeurs, and from all military activities, and many other forms of industrial service. Man is the only animal, except monkeys, who has what is called binocular single vision, that is, he can tell not only the direction of an object but fairly accurately its distance by the use of both eyes pointing at the same object at the same time like two range finders. Other animals do not use both eyes on the same object at the same time. The outside limits of vision of man are greater than half of the space in which he is placed and his eyes can move accurately, with the greatest precision to any object in any part of his field of vision, and such movements may be supplemented by movements of the head and body. He sees distinctly only that at which he looks directly. Peripheral vision assists him in discovering moving or other objects to which, if he wishes, he may direct his gaze. Poor vision in an eye may save a man from accident caused by some moving object, as a car approaching from the side. Therefore the individual with two eyes, even if the vision of one is poor, is more likely to escape injury than the person with only one eye. One-eyed people are always more likely to meet with accidents than those having two normal eyes.

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 4, 1938 at New Orleans.

Every oculist knows that many people consult him and though they have not seen out of one eye for many years or since birth, they did not know this until examined. Often the patient to his astonishment discovers that in one or perhaps in both eyes he or she has only a small percentage of normal vision. If this person with one eye seeing only one-twentieth as much as the other eye should have a slight accident to the bad eye, he or she would be inclined to ascribe the loss of vision to the accident, no matter how trivial it might be. If he or she were a malingerer and had known that the sight was previously defective in one eye, he or she could attribute the loss of vision to the possibly harmless accident. To determine how much a given accident or disease has injured the eyesight, the vision of the eye or eyes before the accident and after must be known. Therefore when any industrial organization or state undertakes to pay for the results of an injury to an eye, they should have a record of the vision of each eye of every assured or employed person. This will insure fairness to both parties. Also the examination will discover many who have defective vision and who are more likely to receive injury, not only to eyes, but to other parts of the body, and possibly loss of limb or life.

Persons who have narrowed or constricted fields of vision would be unable to protect themselves from objects moving towards them outside of the space in which they can see; naturally such an individual should not be employed in certain dangerous vocations, not only for the protection of the individual, but for the employer, and also for the protection of fellow workers or others.

Those whose vocation requires good vision for small signals, colors, such as trainmen, motormen, airplane pilots, army and navy service, are subjected to special quantitative and color tests. It is known that the use to excess of certain drugs, or alcohol and tobacco, may destroy the color perception of small or distant objects without having much effect on general color perception.

The first aid service with trained nurses and doctors is vitally important to any industry to maintain proper physical standards.

In most industries so much depends upon the good vision of the employees that efficiency as well as the prevention of general accidents requires the protection and preservation of eyesight. In certain trades many eyes are injured or destroyed by flying particles, molten metals or corrosive compounds. Most of these accidents can be prevented by correctly fitted protective goggles. It is practically criminal negligence in not using protective glasses that causes the loss of many good eyes, robbing the worker of his usefulness and often throwing him upon his friends or the local government for financial assistance. Education of the workmen and their directors often takes much time and patience before full cooperation can be secured. In certain trades the illumination should not be reduced too much; ordinary glass reduces it nearly 7 per cent, and if isinglass is placed behind the lens the illumination is reduced about 12 per cent. Fortunately at the present time correctly made and tinted protective lenses are easily secured.

THE EAR

In considering the ear in industrial workers, we think in terms of boiler-makers' deafness, airplane deafness, and cloth weavers' deafness. We know the sense of hearing, while perhaps not as vital as vision, is very necessary for any worker to be able to win out in the rapid mechanical productive work of this age, and it becomes the serious duty of every industry to prevent occupational deafness by the elimination as far as possible of all excessive or pathology producing noises.

Occupational noises are divisible into two classes: First, those of sudden access and magnitude, such as gun reports, explosions of shells, blasting; these cause deafness by immediate effect on the cells of Corti's canal in the cochlea, with or without middle-ear injury and rupture of drum. Second, there are sounds of prolonged duration, sounds of high pitch and full of overtones, e.g., those to which boiler-makers, coppersmiths and many machinists are subjected, and which produce their effect by stimulation of, and followed by degeneration in Corti's organ, first in the ciliated cells and progressing to the nerve fibers. Such cases of defective hearing are often accompanied by tinnitus and in more advanced cases by vertigo, especially where vibration is present.

The pathologic proofs for these statements are based on experiments on animals. Guinea pigs were used and one or both ears were subjected to continuous notes or tones for varying periods up to 14 days, then the animals were killed and their cochlea examined. Wittmarck was one of the leaders in this pathologic research.

Ritchie Rodgers some years ago investigated boiler-makers' deafness and his conclusions were that loss of hearing for high notes is not the inevitable sequel of noise deafness as had often been thought, but rather that loss of hearing is most marked in that portion of the cochlea corresponding in pitch to the noise to which the individual has been exposed; in other words, the deafness, whether it be most marked for low, medium or high notes, corresponds in pitch to the noises among which the individual works. Later, however, the loss of hearing for high tones, if not previously present, becomes marked, owing to the greater proximity and vulnerability of the basal portion of the cochlear canal. Those supporters of the theory that the basal membrane acts as a resonator cite these experiments on animals and the clinical findings of Ritchie Rodgers as strong evidence in favor of the view that sound is analyzed in the cochlea, in so far as it is analyzed at all.

In occupational deafness of the first variety, sudden atmospheric condensation incident to explosions may bring about rupture of the drum. However, such injuries usually heal rapidly. It is interesting to note that when rupture of the drum does take place, the effects on the internal ear are less and more quickly overcome.

In airplane pilots acute sense of hearing, while an excellent asset, is not considered quite as important as perfect vision. In commercial aviation, the United States Department of Commerce physical requirements on a basis of normal 20/20 whispered voice test, require about one third normal hearing in each ear.

Pilots are subject to three types of deafness: First, deafness due to rupture of ear drum, most often caused by rapid descent, directly due to unequal barometric pressure on either side of the tympanic membrane, and often associated with obstruction of eustachian tube; second, the deafness due to the continuous sharp reiterated crack of the exhaust; this is practically always of a temporary nature, and often lasts several hours after a flight. The third type is that affecting those who test airplane motors, this is usually temporary, as the workmen are only exposed to extreme noises for short intervals every day with frequent changes.

Occupational deafness occurring in civil life affects boiler-makers, blacksmiths, locksmiths, mechanics, engineers, weavers and stokers, and is most often characterized by progressive diminution in the hearing perception accompanied by tinnitus due to excessive irritation of the cochlear branch of the eighth cranial nerve. Gottstein and Kayser found marked impairment of hearing in 50 per cent of smiths and machinists. Holt found marked deafness in 35 per cent of coppersmiths; Marr found that 91 per cent of boiler-makers had impaired hearing. Haferman, in a limited number examined, found no boiler-maker with normal hearing. McKelvie, in thousands of weavers examined, found 24 per cent with some degree of defective hearing.

In industry, defective hearing may be due, not to noise alone, but to other factors. Certain groups of workmen in chemical plants or other allied branches may become more or less deaf due to certain poisons; this is especially the case in chronic poisoning due to lead, mercury, arsenic, phosphorus, sulphur, coal gas products and aniline dye products.

The prevention of deafness in industry is at present being carried out by the owners of plants and the workmen aided by trained nurses, doctors and technical experts. Industrial safety and efficiency, which touches our whole social structure, is not only a matter of machines, structures, fool proof devices, signs and systems, but in the final analysis is dependent on the education and intelligent, unselfish and willing cooperation of the human factor.

The social problem of the care and prevention of blindness and deafness is one of great magnitude and has many ramifications, and I will very briefly mention some of the factors. A recent national health survey by the U. S. Public Health Service gives the following statistics. Blind in one eye, 34 per 10,0000 persons; partial blindness, 20 per 10,000 persons; blind in both eyes, 9 per 10,000 persons. Deafness: Partial deafness, 119 per 10,000 persons; total deafness 5 per 10,000 persons. In the public schools of the U. S. there are about 30,000,000 children, and the records of nearly 1,000,000 examined in 1935-1936 showed over 5 per cent had poor hearing. Of this number examined, over 22,000 were treated by physicians and 4 per cent were restored to normal hearing, and over 4 per cent were greatly improved. Considering these figures as approximately correct, there are in the U. S. 1,500,000 children with some degree of hearing defect, and, compared with past cases treated, of these 1,500,000 children, 60,000 could have their hearing restored to normal, and an equally large number could have their hearing improved if proper treatment is given.

SUMMARY

Those unfortunate individuals whose sight and hearing are gone are automatically forced out of every day social life, and quite often when a person suddenly becomes blind or deaf, the shock is acute, and complete mental breakdown may be the end result. The blind and hard of hearing societies in every city of any size, with their club-like meetings and their trade schools, are doing splendid work. Every state in the union has some form of schools or institutions for the blind and deaf, and every year millions of dollars are used in making these individuals happy and often self-supporting.

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DISCUSSION

Dr. Paul S. Parrino (Franklin): I would like to ask Dr. Bean a question which I hear quite a bit and that is the effect of quinine on hearing. I am a health worker and this concerns me in the treatment of malaria. I notice that the state institution for the deaf has a circular out on the effect of quinine on deafness.

Dr. John T. Crebbin (Shreveport): This is a most important subject and one which affects each one of us, especially when one recalls that speed demons and careless drivers are causing untold automobile accidents. Every day they not only kill but cause permanent injuries to the eyes, ears and nose. In fact, the entire face is prone to disfigurement, following these accidents.

A law should be passed compelling all mechanics to wear goggles whenever there is fear of injury to the eyes; while following their vocation.

Many of these people may become permanently deaf. The cause may be from the use of drugs, or from occupation. One so affected should be taught to guard against accidents during the working hours and every protection should be given these workers. There is still much opportunity and need in educating the public along safety lines, so as to avoid injury to the hearing apparatus and the eyesight.

A person who is deaf receives but little sympathy from his fellow men, whereas, one who has partially or entirely lost his sight is a worthy object of sympathy. I am of the opinion they should also show sympathy for the unfortunate who is deaf. The hard of hearing may add much to their happiness by learning to read the speakers' lips during conversing.

Every eye and ear accident should receive the care of a specialist, at the time of the injury. If this is impossible the patient should consult a specialist as soon thereafter, as possible. By so doing, much of the sight and hearing may be saved.

Dr. Dorf Bean (In closing): I think it has been definitely proved that quinine does affect the hearing. Dr. Crebbin mentioned some interesting things. Of course, one feature is if a person has become deaf, while there is no means of restoring hearing to normal, this person can take up lip reading. It is wise to take up lip reading before the hearing is entirely gone; it is easier for the individual to connect the slight amount of hearing still possessed with the lip reading. Another thing, there are a few ethical hearing devices on the market which are very good.

THE SYMPTOMS, DIAGNOSIS AND TREATMENT OF CARCINOMA OF THE RECTUM AND SIGMOID COLON*

B. C. GARRETT, M. D.
and
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SHREVEPORT

RELATIVE FREQUENCY

Five and one half per cent of all cancer deaths occur from cancer of the rectum and sigmoid colon. This is an astounding figure when it is realized that 6 per cent of all cancers occur in the above mentioned sites, and that the diagnosis is one of the easiest of all cancer diagnoses to make. These carcinomas comprise 25 per cent of all carcinomas of the large bowel. Sixty-six per cent of these carcinomas are 5 cm. above or below the rectoperitoneal reflection. The exact location of the growth is often deceiving. It frequently appears to be in the lower rectum when in fact the growth has prolapsed downward from its true site higher up. The location of the growth should be thoroughly understood because of the lymphatic drainage and the fact that obstruction more frequently occurs in the rectosigmoid than in the lower rectum. The lumen of the bowel in the rectosigmoid area is smaller than in the lower rectum, hence the growth encroaches upon it sooner than in larger areas.

Ninety-five per cent of all carcinomas of the rectum are within four inches of the anus and are palpable by digital examination, and yet the early diagnosis is all too infrequently made.

AGE INCIDENCE

There is a total of 69 cases in this series, all being from hospitals in Shreveport, covering the years of 1935, 1936, 1937 and 1938. The oldest patient was 80 and the youngest was 21.

The average age was 52.1 years. The incidence by decades is very interesting.

AGE INCIDENCE

Decade	No. of Cases	Per Cent
Second	4	5.9
Third	9	13.4
Fourth	16	23.9
Fifth	13	19.4
Sixth	21	31.3
Seventh	3	4.7
Eighth	1	1.4

In our small series we have found that the incidence of carcinoma of the rectum and sigmoid is greater in the third decade than it is generally supposed to be. The greatest incidence occurs in the sixth decade of life.

Of the total, 64.1 per cent of these tumors occurred in the rectum, 28.2 per cent in the sigmoid and only 7.7 per cent in the rectosigmoid area. Forty-one, or 61.1 per cent of the patients had surgical measures; 17.9 per cent had radium and deep x-ray therapy and 21 per cent had no treatment. Of the total, 37.3 per cent are still living, 40.2 per cent are dead and 22.5 per cent are unknown.

PATHOLOGY

Carcinomas of the rectum and sigmoid are adenomatous in type. Their microscopic structure varies from almost normal gland formation to formations in which glandular structure is hard to find.

According to their gross appearance they may be classified as: (1) Papillary; (2) polypoid; (3) mucoid; (4) ulcerative; (5) infiltrative; (6) signet ring.

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*Presented before the fifty-ninth annual meeting of the Louisiana State Medical Society, May 3, 1938 at New Orleans.

SYMPTOMS

The early manifestations of malignancy of the lower bowel, generally, are likely to be so vague and misleading, that unless we keep the condition always uppermost in our minds we will possibly fail to make the early diagnosis. The earliest of all symptoms is a change in the bowel habits associated with vague abdominal distress, soon followed by the appearance of blood in the stools. Much later pain makes its presence felt, followed by loss of weight, weakness, anemia and a more or less profuse discharge.

In patients of 40 or more who begin to notice some change in their bowel habits, be it constipation, diarrhea or a combination of both, associated with abdominal distress (and it is usually a vague sort of distress), carcinoma should head the list in the differential diagnosis.

Miles, of England, has estimated that it takes six months or longer for the growth to travel one-fourth way around the gut wall. The average patient does not consult the doctor sooner than one year after the onset of the carcinoma and as a consequence the growth is usually half way around the intestine before we see the patient for the first time. In the present series the average length of duration of symptoms was one and one-half years.

The earliest definite symptom is the appearance of blood in the stool. The patient's denial by no means rules out its presence. This at first may be occult blood and it should be our duty to ascertain its presence or absence. There may be a slight abnormal secretion of mucus, perhaps faintly blood-tinged, which may pass unnoticed by the patient for weeks or months. Gross hemorrhage is usually a late finding as is also pain and the resulting train of symptoms which denotes a far-advanced malignancy. Pain, when it is present, is seldom severe and is usually located in the rectum and pelvis, the sacral region, and the lower part of the abdomen.

DIAGNOSIS

The most important aid in the diagnosis of carcinoma of the rectum and sigmoid is to keep the condition in our minds, especially in those patients of 40 or more who come to us with only the vaguest complaints referable to the lower bowel and rectum. The one really valuable procedure in the physical examination is digital exploration and this should be followed by the proctoscope and biopsy.

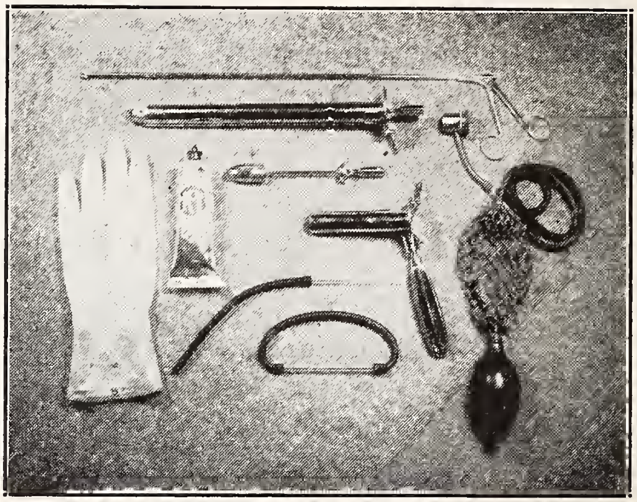

Fig. 1. Simple number of instruments necessary for making proper diagnosis of rectal carcinoma.

As mentioned a few minutes ago, 95 per cent of rectal carcinomas are within four inches of the anus and can be palpated by the examiner's finger. If no abnormality is encountered by the finger with the patient in the usual position he should be requested to strain downward. If this yields negative results the patient should then assume the squatting position and strain down. If there is a carcinoma in the rectum it can be felt by this last maneuver. In females the growth often can be palpated through the vagina when it is not possible to do so otherwise.

The digital exploration should be followed by passage of the proctoscope so the type, extent and site of the growth can be seen.

During proctoscopy, sections of the tissue should be taken for microscopic examination. It is always advisable to take sections from several areas of the growth. This is a harmless procedure and it is far better to have several sections reported non-malignant than it is to have only one negative report.

It is well to remember that 20 per cent to 25 per cent of all patients with carcinoma of the rectum and rectosigmoid have had previous operations for hemorrhoids.

Roentgen ray examination with barium is a valuable and frequently used aid in the diagnosis of cancer of the rectum and sigmoid. To be of real value the x-ray examination should be done carefully and competently. All too often the barium is closely watched during its passage through the stomach and duodenum and then not so carefully watched during its descent and elimination and the examination is reported as negative as no filling defect was found. The real state of affairs would have been determined had the barium been carefully watched to its final exit. Therefore the barium enema should be used freely in these suspected cases. Some of our x-ray men use the injection of air into the rectum and colon after evacuation of the barium to show a "mucosa relief picture" which will sometimes reveal filling defects that the barium enema did not show. Early carcinoma of rectum and rectosigmoid does not always show up on x-ray.

DIFFERENTIAL DIAGNOSIS

In the differential diagnosis of carcinoma of the rectum and sigmoid the following conditions must be considered: Chronic hemorrhoidal disease; chronic fistula and fissure; multiple polyposis; benign adenoma; granuloma due to chronic E. histolytica infection; granuloma due to chronic ulcerative colitis; diverticulitis; hyperplastic tuberculosis; lymphogranuloma inguinale; syphilitic stricture.

The relationship of rectal polyps to carcinoma is still a very moot question. Many writers think that polyps always undergo malignant changes eventually and offer very convincing arguments to prove this point. Certainly it is very true that the borderline between benign polyps and malignancy is not clear-cut, but the pathologists will have to settle this question.

There should be no real confusion in the differential diagnosis if there is careful history taking and the careful physical examination including digital exploration, proctoscopy and biopsy with several pieces of tissue being excised and studied under the microscope.

MODES OF EXTENSION

Carcinoma of the rectum and sigmoid extends by three different channels: (1) Direct extension, through continuity of tissue; (2) extension through the venous system; (3) extension through the lymphatic system.

Growth by continuity of tissue occurs in a circular manner in the mucosa and submucosa of the rectum and sigmoid. The amount of circular extension is commensurate with the duration of the disease. Infiltration radially into the muscular tunics occurs secondarily and moderate fixation is usually established by the time that one-half of the circumference of the rectum or sigmoid is involved. In very advanced stages the carcinoma penetrates structures beyond the actual wall of the rectum of sigmoid.

Extension by the venous route is a very rare occurrence. That it does occur is witnessed by the finding of carcinomatous nodules in the liver when the primary carcinoma in the rectum or sigmoid is apparently not very far advanced.

There are two groups of lymphatics draining the rectum and sigmoid, the extramural and intramural, the latter being relatively unimportant. The extramural group collects on the surface of the rectum and sigmoid and forms the anorectal glands. From this group of glands there are three efferent lymph routes:

1. The downward: terminates in the internal iliac group of glands, having traversed the ischiorectal fossa and Alcock's canal.

2. The lateral: also terminates in the internal iliac group of glands, but traverses the area between the levator ani muscles and the rectovesical fascia.

3. The upward: terminates in a group of glands at the bifurcation of the left common iliac artery, having traversed the rectorectal lymph glands and the subperitoneal area at the line of attachment of the pelvic mesocolon. The tissues included in this area of spread are important: (a) Pelvic peritoneum; (b) pelvic mesocolon; (c) paracolic lymph glands.

PALLIATIVE TREATMENT

The generally accepted opinion is that deep x-ray therapy and radium are valueless in the curative treatment of carcinoma of the rectum and sigmoid. Lockhart-Mummery says that x-rays and radium probably have never cured a case of carcinoma of the rectum or sigmoid. It cannot be denied though that deep x-ray and radium have a very definite place in the palliative treatment of these cases.

If the patient comes into the hospital with an intestinal obstruction, immediate colostomy should then be done, and we would advise a colostomy only and not an abdominal incision for exploration because this will increase the death rate considerably.

Most of these patients abhor the idea of a permanent colostomy, but evidence that the general public is beginning to accept this procedure is being seen. The usual patient will agree more quickly to a resection and an end-to-end anastomosis and will refuse a colostomy until it is too late to hope for a cure. It has been said that a colostomy opening can be controlled by diet and daily routine, but this is definitely not our impression.

OPERABILITY OF CASES

Factors which determine the operability of a patient with carcinoma of the rectum or sigmoid are: (1) Small, local growth; (2) no fixation to adjacent structures; (3) no involvement of the regional lymph glands.

The presence of these factors is not easy to determine, and sometimes we have to do a laparotomy to determine whether a case is operable. Usually a carcinoma in a patient under 30 years of age is inoperable, because the growth promptly recurs and with greater virulence.

Metastasis to distant parts, that is, the peritoneum and liver, contraindicate any but palliative procedures. Diffuse lymphatic involvement in areas adjacent to the neoplasm does not always indicate inoperability. The glandular involvement may be inflammatory rather than carcinomatous and complete removal of the involved area is frequently possible.

Fixation of the growth may or may not indicate inoperability, because sometimes the growth including the fixed adjacent parts can be removed in toto. In deciding the question of operability it must be kept in mind that metastasis occurs late rather than early.

Occasionally an inoperable carcinoma will become operable. A colostomy may be done which will stop the fecal current from passing over the affected areas, allowing it to rest. Through and through irrigation may then be done, followed by radium and deep x-ray therapy.

PRELIMINARY PREPARATION

Surgical measures for the treatment of carcinoma of the rectum and sigmoid are formidable procedures, and the patient should have the most careful preoperative preparation to prevent infection and combat shock. This period of preparation should be carried out over a period of from four days to one week. It consists of: (1) High caloric, low residue diet (including candies, fats and large amounts of fruit juices); (2) large amounts of fluids (intravenous infusions of glucose and saline solutions); (3) blood replacement by transfusions if necessary; (4) decompression (one ounce of epsom salts in water over a four hour period each morning for several days); (5) cleansing enemas each day; (6) absolute removal of all barium (a flat plate should be taken the day before operation followed by proctoscopic examination to be sure all barium is removed and the rectum and colon are clean); (7) the routine use of an intraperitoneal vaccine of streptococci and colon bacilli is questionable.

SURGICAL PROCEDURES

It is hard to describe the feel of cancer of the rectum or rectosigmoid. Someone has said it seems very much like cartilage, and this is probably so; however, I have often compared it to the consistency of a new Irish potato. To diagnose, we need only our finger, a glove, a knowledge of the disease and a good history for 95 per cent of the cases. A proctoscope and microscope should enable us to diagnose practically 100 per cent. Amebic infection should always be ruled out as sometimes both are present.

Lisfranc first advocated resection of the rectum over 100 years ago (1830). Prior to that time cauterization and curettement had been carried out. Some 50 or more years later Marhand and others advocated perineal resection.

Surgery of today has a tendency toward perineal excision or posterior resection preceded by a permanent colostomy or an abdominoperineal resection which is also preceded by permanent colostomy and usually exploratory laparotomy at the time of the colostomy. Exploratory laparotomy is usually done through a lower midline incision or a left rectus incision and colostomy is done in the left iliac fossa.

The narrowing of the lumen of the bowel in the rectosigmoid area was demonstrated a number of years ago by dissection and proctoscopic examination. The lumen in this area has often been spoken of as being too high to attack from below and too low to be attacked from above, and the upper part of the rectum is fixed and has no mesentery. These facts would point out that combined radical surgery would be the treatment of choice of tumors in this location.

The abdominoperineal procedure is certainly the most radical and carries the highest postoperative mortality, which is from 15 per cent to 25 per cent when done by a most skilled surgeon, whereas in posterior resection the mortality is much less and is reported by some as from 4 per cent to 8 per cent. We consider the posterior resection the method of choice when being done by the average surgeon who sees comparatively few of these cases.

The question arises about metastasis: Would more patients survive the abdominoperineal operation than the ones surviving the posterior resection? It all depends on the involvement of the lymph nodes or metastasis to other parts of the body. If there is metastasis, surgery nor anything else will give them any permanent relief. Metastasis, grade of cancer and the general condition of the patient will all have an important bearing on the patient's recovery.

Recently Lockhart-Mummery has reported more than 200 cases done by posterior resection with a very low mortality rate. In his opinion the carcinomas that have progressed beyond the intestinal wall and involved the lymph nodes have a poor prognosis, and those in which only the intestinal wall is involved, have a good prognosis.

The abdominoperineal operation should be done, if at all, on patients who are under 60 years of age and in good physical condition. Miles is an advocate of the one stage abdominoperineal operation, but in the hands of the ordinary man I think that the death rate would certainly be high in the average run of cases.

Rankin advocates the two stage abdominoperineal operation. He first opens the abdomen by lower midline incision, doing an abdominal survey to see if there is any metastasis. Then he divides the gut well above the growth, purse-strings the distal end and leaves it free within the abdominal cavity and brings the proximal end out through the left flank making a permanent colostomy. After four or six weeks he goes back and does the posterior resection. After the rectum is resected up to the peritoneal fold it is covered over with a rubber glove and the peritoneum closed from behind. Then the patient is turned over on his back, the abdomen opened and the operation finished from above. This operation has proved very successful in Rankin's hands, but there are few of us as capable as he in performing this operation.

Lahey's operation is done in somewhat the same manner except he brings the distal end of the gut out the lower end of his midline abdominal incision so as to be able to irrigate the distal end of the gut from above downward and when he does the second stage operation, it is done from above downward.

There are various other operations as described by Coffee and others, but Lahey's, Rankin's and the posterior resection, or Kraske's procedure, are the methods of choice. Rankin's operation and also the Lahey operation would certainly create more pitfalls and difficulties for the average surgeon than does the ordinary posterior resection.

In the cases of carcinoma of the rectum and rectosigmoid we have managed, the Kraske procedure has been employed, except in a few cases that were high enough above the peritoneal fold to do a segmental resection with an end-to-end anastomosis, with preservation of the rectum. We might mention that these are the happiest patients we have attended.

The posterior resection is preceded by a left abdominal incision, so as to allow an exploration of the abdomen for metastasis, and a loop of the descending colon is brought out above the growth to establish the permanent colostomy.

If the general condition of the patient is not good and you do not want to handle the gut or put your hands into the abdomen for fear of scattering the infection, or disturbing the tumor, you do not make this left abdominal incision. A smaller incision is made, a loop of the gut is brought out and a glass tube is slipped underneath the gut through the mesentery, in an area which is comparatively free from blood vessels. A rubber tube is placed over each end of the glass so that it will not slip out of place. Very little suturing will be required around this loop of gut, usually one stitch on each end of the small incision. The incision should be large enough so as not to interfere with the circulation of the loop of gut that is brought on the outside. The exposed gut is left intact for 48 to 60 hours, if the patient's condition will permit, and is then opened by a cautery. If gas or a bowel movement does not begin to escape immediately the proximal end should be irrigated with mineral oil or warm water every three or four hours to stimulate peristalsis. The colostomy is covered with vaseline gauze which is changed as often as necessary. After five to seven days the gut is severed immediately above the original intestinal incision. If hemorrhage is encountered it may be controlled very nicely by means of a cautery. The distal segment should be irrigated from above through the rectum twice daily. We have been very fortunate not to have the proximal end of the gut prolapse except in one case and that was partially controlled by the cautery.

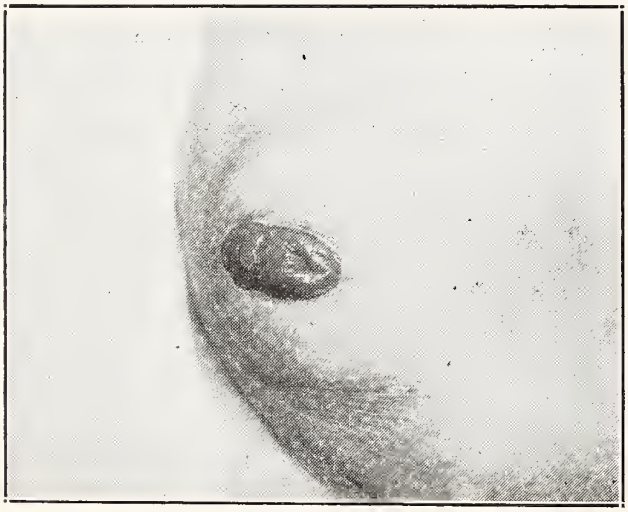

Fig. 2. Type of colostomy done in first stage of Kraske operation.

By this time the patient is on a full diet and is allowed to be up and about in a rolling chair. Everything is done to build up the general health, to restore strength as soon as possible.

In two to four weeks the patient is taken back to the operating room and under spinal or general anesthesia the posterior resection is performed. An eliptical incision is made, which extends from the upper part of the sacrum down to and surrounding the rectum. The coccyx and often a small portion of the sacrum are then removed. At this time the superior hemorrhoidal artery should be ligated and the rectum closed tightly with at least two layers of heavy linen.

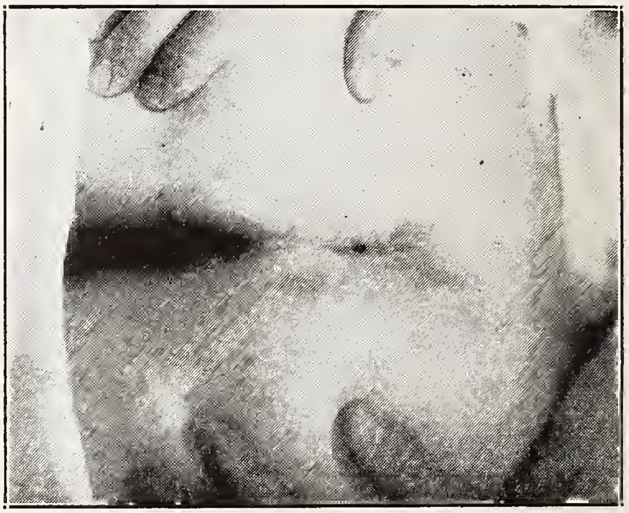

Fig. 3. Section showing area for incision in second stage (posterior resection) of Kraske operation. Note small draining sinus, almost healed.

The gut with the ischiorectal fat is dissected up to the rectoperitoneal reflection. If the growth is above this reflection the peritoneum should be opened going as high as possible above the growth before severing the gut with a cautery. Then, this proximal stump, or fistulous tract, should have a purse-string suture and be anchored to the peritoneum when it is closed. If this is done the healing should be comparatively rapid and without a sinus. Sometimes these sinuses are very annoying to the patient. However, they often heal without sinus formation. Hemorrhage should be controlled in the posterior wound and the wound closed, leaving vaseline packs in the lower part of it to facilitate the drainage. If the patient's condition is not good, immediate blood transfusion should be given and repeated as often as necessary. Fluids should be pushed by infusion, hypodermoclysis and, as soon as the patient can tolerate it, by mouth.

Much has been said about educating the patient to control the colostomy by the formation of new habits and dietary management. This may be possible, but we have yet to see a patient who could control a permanent colostomy without some kind of a receptacle on the band to take care of the bowel movements. We are sure that the peoples' minds are not as poisoned today as they have been in the past in regard to colostomy, but they are not all thoroughly sold on the idea yet. This being true, we have attempted and gotten by with a few cases of segmental resection with an end-to-end anastomosis. Horsley has reported some good work along this same line.

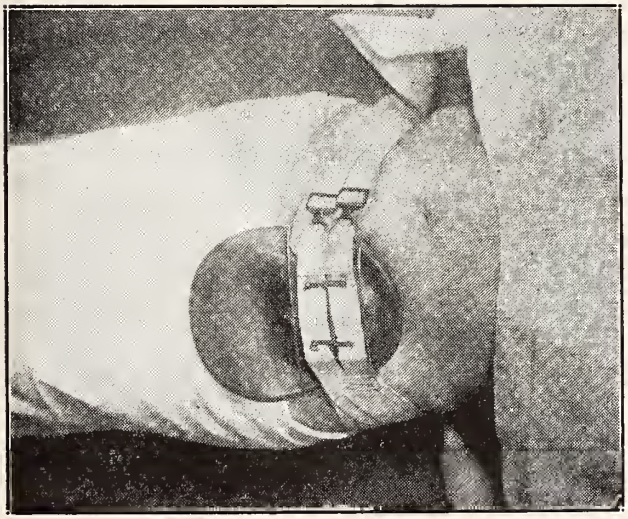

Fig. 4. Type of colostomy pouch used with colostomy.

POSTOPERATIVE CARE

Postoperative complications of this procedure are about the same as for any other abdominal operation, the most common being shock, hemorrhage, peritonitis, obstruction and occasionally pneumonia. Peritonitis is the one that causes the greatest fear and it is responsible for most of the postoperative deaths. Its occurrence can be lowered by the cooperation of the patient and everyone else interested in the case, both during the operation and afterwards.

SUMMARY

The efficiency or the success of any operation depends upon the mortality, how happy you leave the patient when the operation is over, and how long he will live.

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SUMMARY OF CASES

SEX	AGE	DURATION OF SYMPTOMS	LOCATION OF CANCER	TREATMENT	FOLLOW UP
				HOSPITAL 1	
F	59	2 years	Rectum	One stage removal; radium	L and w 7 yr.
F	35	2½ years	Rectum	Resection, end-to-end	L and w 3½ yr.
F	40	9 months	Rectum	Colos.; post. resection	L and W 4 yr.
F	40	9 months	Sigmoid	Colos.; post. resection	L and w 6 mo.
M	69	1 year	Sigmoid	Colos.; post. resection	Died—peritonitis
F	68	2½ years	Sigmoid	None	L 5 months
M	47	3 years	Rectum	Resection, end-to-end	L and w 3 yr.
M	35	?	Sigmoid	Colos.; post. resection	L and w 2½ yr.
M	62	?	Rectum	Obstruction; colostomy	Died
M	65	?	Sigmoid	Obstruction; no treatment	Died
				HOSPITAL 2	
F	53	1 year	Sigmoid	Deep x-ray	Died
F	29	?	Rectum	Exploratory	Died
F	67	?	Rectum	Deep x-ray	L and w 5 yr.
M	62	1 year	Sigmoid	?	Died
F	46	?	Sigmoid	Deep x-ray	Died
M	79	3 weeks	Sigmoid	Exploratory	Died
F	21	3 years	Rectum	Exploratory	Died
M	49	1 year	Rectum	Deep x-ray	L and w 1 yr.
M	59	6 weeks	Sigmoid	Exploratory	Died
F	68	2½ years	Rectosigmoid	None	L 1 month
				HOSPITAL 3	
M	65	2 years	Rectum	Radium	?
F	44	2 months	Rectum	Colostomy; radium	L 1 yr. (pneumonia)
M	63	6 months	Rectum	Refused	?
F	68	2 years	Rectum	Inoperable; radium	?
F	60	2 years	Rectum	Radium	L and w
F	72	8 years	Rectum	Deep x-ray; radium	L and w
F	60	?	Rectum	Colostomy; radium	L and w
M	67	6 months	Rectum	Radium	L and w 3 yr.
F	54	1 year	Rectum	Colostomy	Died
F	67	2 years	Rectum	Radium	D 3 mo. (insanity)
				HOSPITAL 4	
M	65	8 months	Sigmoid	Colostomy	Died
M	63	2 years	Sigmoid	Colostomy	Died (peritonitis)
F	55	3 years	Rectum	Colostomy	Died
M	45	3 years	Rectum	Colostomy	Died
F	76	2 weeks	Sigmoid	Colostomy	Died
M	52	4 years	Sigmoid	Colos.; post. resection	Lived 2½ yr.
F	62	1 year	Sigmoid	Colostomy	Died
M	63	8 months	Sigmoid	Colostomy	Died (peritonitis)
M	47	6 months	Rectum	Resection, end-to-end	L and w 2 yr.
				HOSPITAL 5	
	62		Sigmoid	Refused	?
	29		Rectum	Modified Rankin (1)	Died
	47		Rectum	Refused	L and w
	34		Rectum	Laparotomy	Died
	30		Rectum	X-ray	Died
	60		Rectum	X-ray; radium; op.	Died
	53		Rectum	Refused	L and w
	36		Sigmoid	Laparotomy	?
	53		Rectum	None	Died
	52		Rectum	Colostomy; radium	?
	26		Rectum	Radium	Died
	62		Rectum	Refused	L and w
	80		Rectum	Colostomy	?
	32		Rectum	Colostomy	Died
	46		Rectum	Laparotomy	?
	49		Sigmoid	None	?
	35		Rectum	Laparotomy	?
	44		Rectum	Laparotomy	?
	60		Rectum	Laparotomy	?
	42		Rectum	Colostomy; x-ray	?
	59		Rectum	Laparotomy	L and w
	42		Rectum	Colos.; post. resec.	L and w
	63		Sigmoid	None	L and w
	59		Rectum	None	Died
	45		Sigmoid	Ileostomy	Died
	53		Rectosigmoid	Colostomy	Died
	34		Rectum	None	L
	39		Rectum	None	L
	56		Sigmoid	Laparotomy	L

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DISCUSSION

Dr. John A. Hendrick (Shreveport): Dr. Garrett and Dr. Davidge have covered the subject of carcinoma of the rectum and rectosigmoid from practically all of its angles. All I wish to do is to try to emphasize some of the points that Dr. Garrett has already made.

In fact, the real problem that we have in dealing with malignant neoplasm of the distal colon is its early recognition. If these cases are recognized early, the operative procedures which have been so well worked out by Miles, Rankin, Thompson, Lahey and many others, when properly applied, give a low operative mortality and good permanent results.

The unfortunate and difficult situation we meet in dealing with malignant conditions of the lower colon is the fact that it has no sensory nerve supply and therefore is a silent area, and does not give any symptoms early. Only after the neoplasm has become so extensive that it interferes with the normal function do we get any symptoms at all, and even then they are so indefinite that the patient does not think them of enough importance to go to his physician; and when he does, we, as doctors, do not attach enough importance to the symptoms complained of to make us do a thorough proctoscopic and rectal examination.

If we are to increase the operative per cent of patients suffering from neoplasm of the lower colon, we must constantly bear in mind the fact that one half of all malignancies are located in the gastrointestinal tract, and nearly one third of these are in the lower colon. If these cases can be recognized early enough, operative procedures that have been well worked out, properly employed, give a low operative mortality and a fairly normally functioning bowel.

There have been admitted to the Highland Sanitarium in the past four years nine patients with cancer of the lower colon and rectum. Two of these patients had a general peritonitis when they came in, five were far advanced cases. On one, we did a graded resection after the method of Rankin, and on the other, a low rectal cancer, we did a Harrison-Cripps operation. The Harrison-Cripps operation is really worth while and gives good results in this type of case. In this case, one year and a half after the operation, the patient is in good health and has a satisfactory functioning bowel at the present time.

When we review the symptoms of early cancer of the lower colon, we find they are so vague and indefinite that they are rarely suspected. This is why it is very important that all patients complaining of any gastrointestinal symptoms should have a thorough rectal and proctoscopic examination. In other words, we must train ourselves to suspect malignant neoplasm in the rectum in all patients who come to see us within the cancer age as we have heretofore suspected malignancies in the breasts and cervix of women. If these cases are recognized early, we can in a great per cent of the cases do a restorative operation and save the patient from having a permanent colostomy done, which is a life saver and is borne very well by the patient; but certainly they are not as happy over their situation as they would be had the normal function of the bowel been restored.

We should consistently keep in mind that nearly all rectal cancers are within reach of the examining finger and all are within reach of the proctoscope, and further that 90 per cent of all cancers of the rectum are of low grade. We should remember what Dr. Osler said, "Neglect to put your finger in the rectum and, sooner or later, you put your foot in it."

Dr. A. P. Crain (Shreveport): The discussions of cancer are so generalized that we know just about what they are, which comes to this point—that the speaker and the discussors have brought out, that we are too prone to allow these patients to come to our office and leave without proper examination. I know you have had patients come to you with the complaint that they have bleeding piles, itching sensation in the rectum, fullness in the rectum and you prescribe a little Upjohn ointment and allow the patient to go away, possibly to another doctor who is more careful and alert than you have been and you lose the patient and respect of people who know anything about the case.

Cancer of the rectum is one of the most common types of cancer. The early diagnosis, biopsies, and clinical findings in order to determine whether there is a cancer and if there is, any radical form of operation that you may see fit should be performed, going after the glands and getting everything possible well above the site of the cancer. I have only had a few patients with cancers of the sigmoid, but a colostomy has been done and kept wide open the whole time of the patient's convalescence until I was sure that the sigmoid joint had held. The follow-up of these cases often times is not what you desire.

Dr. Alton Ochsner (New Orleans): Dr. Garrett, Dr. Hendrick, and Dr. Crane have emphasized the importance of early recognition of carcinoma of the rectum. There are several considerations of surgical significance which I should like to stress. These concern the preoperative preparation of a patient. It is particularly desirable to administer fluids to these patients, because they are usually dehydrated. We have also observed recently that these patients have a very definite vitamin C deficiency. This occurs characteristically in any type of chronic infection extending over long periods of time. For this reason these patients are given large quantities of vitamin C immediately before the operation.

Some of these patients are inoperable because of a marked fixation of the neoplasm which is frequently due to the associated infection. In many cases by short-circuiting the fecal stream this infection subsides to such an extent that resection becomes possible at a subsequent stage. Whereas this can be partially accomplished by the customary Paul procedure which consists of bringing the two loops of the colostomy to the skin as separate openings, almost invariably there occurs some soiling into the distal segment. The recent procedure described by Devine* of producing a "defunctioned" distal segment undoubtedly achieves this most successfully.

My experience as regards the ability of these patients to be comfortable differs from that of Dr. Garrett. Whereas some inconvenience may be experienced at first in the proper care of the colostomy, they are able usually to have automatic control of the colostomy. This is accomplished by taking an enema once a day or once every other day and thus completely evacuating the colon. In this manner it is necessary to wear only a small piece of vaseline gauze to prevent irritation of the mucosa.

Dr. C. P. Rutledge (Shreveport): Dr. Garrett has asked me, as a radiologist, to make a few remarks concerning radiation treatment of these conditions. Of course there is no radiologic cure for carcinoma of the rectum. However, in some of those cases with fixation, large tumor masses, in some of the radiosensitive tumors, which are few and far between, radiology is of some service. Some of these cases are made operable by the aid of radiation treatment. I have had no experience with radium treatment in this condition. I have treated some few with roentgentherapy. Roentgentherapy is of value in those cases where patients are suffering quite a bit of pain because it does act as an analgesic and makes the patients more comfortable. I have had one case of carcinoma of the rectum where the growth was protruding from the rectum and the patient refused operation and received extensive radiation treatment over a long period of time. This patient was kept comfortable for many years, was finally operated on and I believe is still living.

Dr. J. D. Rives (New Orleans): Dr. Garrett and Dr. Davidge have covered their subject as thoroughly as the limits of time permitted, but a few additional points might be further stressed.

The first consideration is the question of diagnosis. It is beyond dispute that the chief cause of the high mortality in carcinoma of the rectum or sigmoid is late diagnosis. Upon that we are agreed, I think. It can be stated categorically that any patient who exhibits symptoms referable to the lower bowel should have a digital examination. Until those studies have been made, no physician has a right to declare non-malignant any condition which produces symptoms referable to the lower bowel. I also want to emphasize another point in this connection, of which most physicians though not all physicians are fully aware, that the ordinary gastrointestinal x-ray study is practically useless as far as visualizing the colon is concerned. That can be done only by a barium enema.

The second point I wish to discuss is the cause of the high surgical mortality which follows procedures upon the colon. That mortality is not due to the fact that the disease has spread beyond the range of surgical removal. It is due chiefly to sepsis, not sepsis which is present at operation, but sepsis which follows the operative procedure. The proper preoperative preparation of the patient will reduce that mortality enormously.

The operative preparation falls into two parts. The first deals with the maintenance of an adequate fluid balance by the systematic supply of fluids, and particularly by the use of blood transfusion. The administration of fluids by various routes is essential, but there is no real substitute for the addition of blood, and transfusion should always be part of the preparation for surgery.

The second phase of preoperative preparation is a systematic endeavor to empty the colon and to keep it empty for several days preceding the operative procedure. Surgeons who practise that plan are agreeably surprised by the reduction in their surgical mortality. Rankin's experience is significant. You will remember that some years ago he reported a striking reduction in operative procedures on the large bowel by the use of preoperative injections of vaccines into the peritoneal cavity. He now believes that those injections had little if anything to do with his reduced mortality, but that the chief factor was the preoperative emptying of the bowel.

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*Devine, Sir Hugh: Operations on a defunctioned distal colon, Surg., 3:165, 1938.

It is astonishing how nearly free from solid content the large bowel can be made, and how much more satisfactory is the convalescence of the patient when this state has been achieved. A nonresidue, high-caloric diet, repeated colonic irrigations and the systematic administration of saline laxatives will empty the large bowel and keep it empty. Another plan, devised by Devine and discussed by Dr. Ochsner, has attained wide popularity, and it should be used even more extensively than it has been. If it is consistently employed, there is far less danger of peritonitis and sepsis, which are the bane of surgeons who do large bowel surgery. If peritonitis and sepsis can be controlled, the results of such surgery will be enormously improved.

Dr. B. C. Garrett (In conclusion): I am very much interested in Dr. Ochsner's statement concerning the new type of operation performed and hope I will have the occasion to see or do one.

Unfortunately these cases, as you know, are pushed from one fellow to another and the average doctor thinks it is just a good case to pass on and get rid of it. I would like to learn more about these cases and I have learned much from these discussions.

NEOPLASIA OF TESTES*

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New Orleans

There is perhaps no other group of neoplasia in the entire body more difficult to understand than those which are found in the testes. Most of this difficulty has resulted from an inability to understand the pathogenesis of these tumors, which in turn has made an acceptable classification practically impossible. There are probably no two pathologists who use the same classification when considering testicular tumors; and many of them "are frank enough to admit that at present some of these tumors cannot be classified."[1]

Despite these facts, however, recent developments have been of such significance as to indicate a definite transitional state of the subject.[1] In 1929 Zondek[2] discovered that the urine of some patients suffering from testicular tumors gave a biologic result very similar to that which he had observed in using the urine of pregnant women. His report in March 1930 was followed by investigations and reports[2] along the same lines by other investigators. The result has been a better understanding of these tumors from practically every viewpoint. The fact that certain of these tumors cause the excretion of a specific gonadotropic hormone in the urine, similar to that excreted in the urine of pregnant women, has been found to be of great practical value from the points of view of diagnosis, prognosis and treatment.

INCIDENCE

Among many clinicians, for reasons which I have been unable to understand, tumors of the testes, especially teratomata, are thought to be relatively common. Testicular tumors, however, are rare, and according to Hinman,[1] no one person has had an opportunity to study a large series. In this connection it is interesting to note that in Hotel Dieu among 65,744 admissions during the past decade—1928 to 1937 inclusive—there have been admitted only six testicular tumors, all of which were diagnosed pathologically as teratoma of the embryomatous type. The experience of Touro Infirmary is very similar. During the same period of time at the latter institution among 90,233 admissions there were seven testicular tumors. Among this group there were five teratomata and two seminomata. From this it is quite evident that the experience of New Orleans, surgeons more or less parallels that of surgeons elsewhere.

ETIOLOGY

As regards the etiology of testicular tumors nothing is known. Most of the theories advanced for neoplasia elsewhere have likewise been advanced for tumors of the testes. Just as is the case with other tumors, testicular neoplasia have been reported from birth to very old age. The period of greatest frequency, however, is from twenty to forty years, 80 per cent being observed during these two decades.

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*Presented before the Staff of Hotel Dieu at the regular monthly meeting on April 18, 1938.

According to Gurlt, Corner, and Slye[1] the relative frequency of testicular tumors to malignant new growths of all kinds is about 0.57 per cent. The right side—as in the present group of thirteen cases—is somewhat more frequently involved than the left side (123 to 99 times.)[1] Twenty-four cases[1] of bilateral involvement have been reported, most of which occurred in cryptorchids. According to Hinman, the relative frequency of tumor in undescended testes is difficult to estimate. Eccles, Coley and others show it to be about 0.17 per cent. Among 728 testicular tumors, 82 or 11.2 per cent occurred in undescended testes.[1] "On the other hand, among 3646 cases of undescended testes variously collected, there were only eight instances of malignancy," and "up to October 1934, a total of 156 tumors occurring in undescended testicles had been reported." After careful consideration of various statistical data. Hinman concludes that teratomata have a higher incidence in cryptorchids than in the normally placed gland.

PATHOLOGY

It is not my intention to discuss the pathology of testicular tumors. From a clinical standpoint however, this phase of the subject cannot but attract our attention. Hinman says that there are three main points of origin for tumors of the testes. They can arise from totipotent cells which may be primordial germ cells or differentiated somatic cells, from a fetal remnant or isolated blastomere, or from an adult tissue cell of the testes. This author further states that if it arises from the first, the growth would be embryonal, a mixed tumor and malignant; if from the second, a congenital and benign dermoid or an adult teratoma which may show malignant changes; and, if from the third, a type of tumor characteristic of the cell from which it originated, which might be connective tissue or epithelium, or benign or malignant. According to this it is quite possible to have teratomata develop from the totipotent cells or from the fetal remnant or isolated blastomere. In the former the type is usually embryomatous and very malignant. The latter usually represents the adult type of teratoma which is usually benign. Seminomata arise from the seminiferous tubules and are histopathologically carcinomata.

The question of genesis has lately commanded more attention, because of all the testicular tumors it is only some of the embryomata, arising from the totipotent cell, which give rise to the gonadotropic hormone.[2] However, "most pathologists favor the origin of these tumors from primitive sexual cells whose normal development into the spermatogonia has been suppressed."[1]

In the present group of thirteen cases, ten were classified by the pathologists as embryomas, which according to Hinman are very malignant, one as an adult teratoma and two as seminomata or carcinomata.

SYMPTOMS

The first thing usually observed is a painless enlargement of the testis. Occasionally a blow or some other trauma may be the first thing to direct one's attention to the changes present.[1] The initial increase in size is frequently followed by a period of quiescence; and this is followed by a secondary increase in size that usually alarms the patient and makes him seek medical advice.

The onset of these tumors is ordinarily insidious and several periods of latency may be observed. However, as a rule their growth is rapid and most of them are present less than one year when first seen. Tumors which have existed for several years have usually grown more slowly, and are either adult teratomata or occasionally seminomata.

The diagnosis is made clinically from the history, and to a lesser extent from the physical findings. The court of last resort is of course the pathologist. A strongly positive Aschheim-Zondek test is almost invariably definite evidence of an embryomatous teratoma. However, a negative test should not preclude orchidectomy,[1] as this is no definite proof that the enlargement is not a tumor, as the new growth may be an adult teratoma or a seminoma; and further, if it is a teratoma of the embryomatous type irradiation will have modified the test temporarily—for the latter type of testicular neoplasia are very sensitive to radiation therapy.[1]

Although the spermatic cord may be thickened in these tumors, this is a late finding, just as is enlargement of the inguinal lymph nodes, which follows invasion of the scrotum by the tumor. Despite the clear cut history and definite findings in teratomata it is often necessary to differentiate them from testicular gummata, hematoceles, tuberculosis, and epididymo-orchitis.

PROGNOSIS

The diagnosis of testicular tumor has always carried with it grave significance. This has been so mainly because by far the greatest number of them are malignant.[3] It has been estimated that anywhere from 90 to 95 per cent of testicular neoplasia are teratomata of the embryonal type. Many of these cause the excretion of the gonadotropic hormone in the urine and for that reason much can be learned about them. If a complete removal has been done, the hormone will shortly disappear from the urine. On the other hand an incomplete removal, as well as metastases, can be determined by the presence of the hormone in the urine. The disappearance of the hormone after complete extirpation of the tumor is practically complete at about the end of the second week.[2] Recurrence or the existence of metastases can be determined by the presence of the hormone in the urine. The test then serves as an indication of further activity on the part of the tumor. The more metastases and the more extensive the growth, the larger the amount of hormone excreted. Irradiation treatment causes either a marked diminution or complete disappearance of the hormone from the urine.[2]

Only about 5 per cent of all testicular tumors are of the adult teratomatous type. These comprise the dermoid cysts and organized embryomata with fully differentiated cells.[1] Although these tumors are benign they may undergo malignant changes with a microscopic picture of carcinoma. This type does not usually cause the excretion of a gonadotropic hormone at any time.

Thus the presence of the gonadotropic hormone in the urine is of great importance from the points of view of diagnosis, prognosis and treatment. As a matter of fact, the prognosis might now be said to depend almost entirely upon the presence or absence of this hormone in the urine and especially its quantity.[2] The warning must be given, however, that while a positive test places a given testicular tumor in the category of the embryomata, a negative such test does not carry the same definite significance.[1]

METASTASES

From the clinical standpoint all malignant types of testicular neoplasia behave the same way. Metastasis is first to the regional lymph nodes.[4] In neoplasia of the testes, metatasis is first to the iliac nodes and this is usually relatively early,[5] then to the pre-aortic nodes; and when the supraclavicular nodes are involved, it is very certain that metastasis is generalized, and that the lungs, liver, and spleen are foci of these metastases. The inguinal lymph nodes are never involved unless there has been invasion of the scrotum by the growth.[1] Metastasis to bone does not usually occur. The use of the test to determine the presence of the gonadotropic hormone in the urine permits the surgeon to detect metastases much more early than formerly, when it became necessary to wait for large palpable masses in the abdomen to determine infiltration of the abdominal lymph nodes.

TREATMENT

The treatment of testicular tumors is principally by orchidectomy, the vas deferens being clamped high and cut across with the cautery.[1] In some cases the Chevassu radical operation,[4] which comprises the complete removal of the regional lymph nodes, has to be done. When this operation should be used, however, is still a debated question. Hinman says that "the radical operation for teratoma testis occupies an anomalous position in surgery. It is regarded by the majority as useless, and those few who see some virtue in it are uncertain when to use it." One thing is certain, however, and that is, if this radical proceduce is to be done at all it should be done early.

Of great importance in the present day treatment of teratoma testis is the deep roentgen ray machine. It has been pretty well established that some of these tumors are very sensitive to irradiation therapy. Others are less so,[1] and still others highly resistant. To be of greatest benefit, irradiation therapy must be started early. If delayed too long its value will be greatly minimized. Generally speaking, the more embryomatous the tumor, the more likely will it be affected by irradiation treatment.[2]

In this connection again the hormonic test is an important indication of the effect of this type of treatment upon the neoplasm. As a matter of fact, the sensitivity of the tumor to irradiation can be determined by the test.[2] Thus the hormonic test indicates the radiosensitivity of a tumor much more definitely and certainly than the study of the structure alone. Attention is called to the fact, however, that in mixed tumors the more rapidly growing and perhaps major portion of the tumor may disappear under this form of therapy while the more highly resistant malignant areas will remain.[1] This is of course a danger for which one must constantly be on his guard.

REPORT OF A CASE

N. M., white male, aged 30 years, first consulted me for his present trouble on September 22, 1937. He said that he felt a mass in the lower right abdominal quadrant for two weeks before deciding to see a doctor. However, for six months prior to this he had been losing weight rapidly—losing twenty-five pounds during this time. His appetite was good, but he suffered some from indigestion. The bowels were regular, no cough and no disturbance in urination. His past history was essentially negative except for pneumonia four years previously.

Examination showed him to be well developed and nourished. His reflexes were normal. Mouth essentially negative, as were also the neck and thorax. The abdomen presented a firm, globular, painless mass, pretty well fixed, lying in the lower right abdominal quadrant. The striking size of the mass in addition to the patient's attitude of not wanting to cooperate made me overlook the external genitals, which were examined only casually by inspection.

Cystoscopy and pyelogram by Dr. R. L. Gordon showed a kink at the right ureteropelvic junction, and the opinion was expressed that the mass palpated was not connected with the urinary tract.

Barium enema showed the opaque material to extend as far as the hepatic flexure at which point it was stopped because of severe pain. Gastrointestinal series showed the mass in the right iliac fossa as appearing to be extra-intestinal and the colon spastic. The lungs were normal. Heart and aorta negative. Pyelogram showed the right ureter to be displaced slightly towards the midline.

Urine entirely negative except for trace of albumin which disappeared later. First blood count showed 17,500 leukocytes and 88 per cent polys. A second count after operation showed 14,250 whites with 88 per cent polys; total red cell count 4,240,000; platelets 210,000; color index 0.8. Clotting and bleeding time 2 minutes. Gastric analysis showed free HCl 20; total acidity 40. Examination of feces failed to show ova, parasites or Entameba histolytica.

Operation on September 28, 1937; abdomen opened through a Battle incision; mass dissected free from the surrounding structures, after being recognized as an undescended right testis. There was no evidence of enlarged lymph nodes after complete dissection of area was done. The appendix was very firmly fixed to mass and removed in the usual way. A large area in abdomen remained without peritoneal covering, into which was dropped the cecum.

Report of pathologist showed the mass to be an embryomatous type of teratoma that showed high malignant potentialities.

Patient made uneventful recovery, leaving the hospital on October 17, 1937, nine days after being operated upon. Since leaving the hospital he has had several irradiation treatments, and two hormonic tests have been negative.

On October 15 he weighed 149 pounds. However he was feeling pretty well. From this time on he gradually, although slowly at first, gained weight, weighing 181¼ pounds on April 13 last. His general condition at present is excellent and there is not the slightest evidence that there is any recurrence of the growth.

SUMMARY

A case of teratoma of the testis is reported together with a review of the important clinical features of neoplasia of the testes.

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DISCUSSION

Dr. R. L. Gordon: Dr. Loria has left me very little to discuss, as he has covered the subject so thoroughly. One point that he brought out is particularly true, that the average physician thinks there are a great many more teratoma testes than actually do occur; in fact it is a rather rare tumor. I looked up teratoma of the testes in 1926, and the statistics which Dr. Loria gave as to the relative occurrence of these tumors is almost the same as twelve years ago.

The coming of the Aschheim-Zondek test will no doubt give some of these people more chance, because some of these tumors, chorionic type, react positively to the Aschheim-Zondek test, and their true nature will be diagnosed earlier. Another thing, if the test has been positive before operation, a re-check will be of inestimable value as to whether they are cured, or at least to give some idea of the prognosis in the case. Unfortunately the test is not a specific for all teratoma testes.

In regard to metastasis, I know that quite a number of men formerly removed the retro-peritoneal lymph nodes. Personally, I think this is a waste of time, and I do not think the results warrant the additional trauma, and the additional length of time under the anesthetic, as these glands can be sterilized by deep roentgen ray, which should always be given after operation anyway to prevent metastasis to other parts of the body. A mistaken conception by some practitioners is that there is metastasis to the inguinal glands; this is not true. Metastasis is to the deep lymph nodes along the larger vessels, and from these to other parts of the body. The inguinal lymph glands do not become enlarged in teratoma testes, unless there is an adhesion between the tumor and the scrotum.

As to the handling of this case, I think Dr. Loria is to be highly commended. The patient was completely worked up, even to a pyelogram to exclude a possible low kidney tumor. Although the patient is apparently well, and the Aschheim-Zondek test is negative, one cannot be sure that he is well under three to five years.

Dr. L. Fortier: Dr. Loria has talked quite a bit on the radiologic view of this subject. I have seen about five cases at Hotel Dieu. Three have died and two are still living. One man received extensive treatment over the whole abdomen and remained in good state for approximately six months and then developed metastases in the lungs. We had not included the chest in our field of treatment. I recall another patient who had a large mass on the right testicle and in the abdomen. There was considerable relief from pain but no regress in size of tumors. I remember one of these cases, patient now dead, that had both breasts enlarged and even lactation was present. This occurred postoperatively when there was metastasis in the abdomen.

Dr. M. Couret :Dr. Loria has gone very deeply into the subject of testicular embryomas and has given us many facts which we should all know and remember about these growths: without this knowledge it is almost impossible to explain many phenomena and curious behavior of these tumors or to give an intelligent prognosis on a case. To go into minute explanations of the behavior and origin and characteristics of teratomas would require more time than we can afford to take up.

There seems to be an awful confusion about embryomas. I think the main reason for this is that we do not understand or keep in mind the origin of mixed tumors. If I am permitted, I will attempt to lay stress and explain some of the important points that Dr. Loria has brought out, particularly concerning the origin, malignant manifestations, and behavior towards the Aschheim-Zondek reaction of these tumors. To understand the origin of mixed tumors, whether teratomas or teratoblastomas, to which groups the embryomas belong, we must keep in mind the major phases of the development of the embryo, for while the fertilized ovum represents the supreme totipotent cell, division and many subdivisions of this cell produce cells that are also totipotential. So that until we reach the ultimate division of embryonal cells into the mother cells of the respective tissues, we meet totipotent, pleuripotent, and unipotent cells.

To simplify matters I like to pick out a few high spots in the development of the embryo as a guide to the origin of these tumors. Of course this is only grossly correct. First, the ovum; second, the primordial blastomeres; third, the germinal blastomeres from which point the sex cells appear; fourth, the point of division into the ectoderm, entoderm, and mesoderm, and fifth, the ultimate division of these into the mother cells of the respective tissues of the body. From this it is evident that while the fertilized ovum must be recognized as the principal and primary cell, we must also remember that fully developed twins may develop from a cell of any division of this ovum as long as it can produce a sufficient amount and orderly placement of tissue of all kinds to do so. Twins and triplets which very closely resemble each other are considered as offsprings of a single ovum.

When, however, actual division takes place later in the development of the embryo an incomplete child or monster (epiganthus) is the result. It is then easy to understand how from this point on as these cells divide further, first one and then another tissue drops out, so to say, until finally the stray or detached cell can produce but one type of tissue. During this time the cells are toti—, pleuri—, and finally unipotent. Neoplasms that spring from any of these cells are called teratomas if from totipotent cells (dermoids and embryomas), teratoblastomas if from pleuripotent cells, (mixed tumors and dermoids), and blastomas if of unipotent cells as adenomas, carcinomas, fibromas, or sarcomas.

Now, the fertilized ovum is not the only cell with totipotent powers. We must also consider the sex cells which appear about the time of development of and perhaps from germinal blastomeres. Whether these cells contain chromatin of both the future ovum and spermatozoa, they are considered bisexual (parthenogenetic) and misplaced ones are probably responsible for more teratomas and teratoblastomas than cells from the other origin. Such tumors because of their origin will more consistently give the positive Aschheim because they are more likely to include cells capable of producing placental tissue, whereas others would have to originate from cells at or higher than the third phase. It is for this reason that this test cannot always be depended upon as a laboratory diagnosis and for prognosis unless it was positive before the primary tumor was removed.

I have used the terms, teratoma, teratoblastoma, and blastoma indifferently for benign as well as malignant growths: the terms dermoid, benign mixed tumors, adenomas, fibromas, are usually used as denoting benign types and the terms embryomas, carcinomas, sarcomas, chorioepitheliomas, indicative of malignancy.

Of course all embryomas are expected to recur or metastasize. Rarely, they do not. Why? We do not know. We do not expect the benign dermoids ever to give trouble when once removed. This is the rule but there is an occasional exception. For sometimes there are among the adult type of tissue embryonal groups that may or may not have been detected when the tumor was removed. The metastases of these are sometimes confused with other tumors entirely independent of the original one and again they may be recognized as definite metastatic growths.

The Aschheim test can be depended upon only if the embryomas and dermoids contain hormone producing cells. In these cases the test will become negative when the primary growth is removed (unless there are early metastases present), to appear again after metastases occur. In such dermoids and embryomas that do not contain hormone producing cells, the Aschheim test will be negative and remain so to the end. (Salient points were illustrated by lantern slides).

Dr. F. L. Loria As regards the Aschheim-Zondek test, I want to make clear the fact that this test is only significant when it is positive. When it is negative it carries no importance. In this respect it is very much like the Wassermann test in syphilis. I overlooked mentioning that metastases to the inguinal lymph nodes never occur except when the scrotum is involved. In conclusion, I am of the opinion that the Aschheim-Zondek test has added tremendously to our information of these tumors.

BANANA AND BANANA POWDER THERAPY IN DIARRHEAL DISEASES OF INFANTS AND YOUNG CHILDREN*

EDWIN A. SOCOLA, M. D.
NEW ORLEANS

The use of the ripe banana has been rightfully accepted as a standard measure in the treatment of celiac disease and also as an article of diet for normal infants and young children. More recently, the development of banana therapy in the acute diarrheal disturbances of infants and young children has followed closely the use of raw apple and apple powder in these conditions.

LITERATURE

The principal contributions on this subject have been advanced by the European investigators, Fanconi (1931), Baumann and Forschner-Böke (1934), and Theophil Baumann (1936). In America, Joslin of the University of Maryland, (1936) and Brubaker at the Children's Hospital of Philadelphia (1936), have made extensive studies on this subject, using both ripe banana and banana powder. Baumann and Forschner-Böke in 1934 published a paper entitled "Studies on the Therapeutic Action of Apple and Banana Diet." They studied the relative merits of the apple and banana and concluded that in the older nurslings and younger children, the banana diet gives better results than the apple diet. They noted the loss in weight during treatment was far greater with the apple than with the banana. They attributed this difference not only to the greater caloric value of the banana, but also to the considerable amount of chlorine and the sodium and potassium content present in the banana. These factors cause an increased water retention and prevent too great a loss in weight.

Abt in the 1936 Year Book of Pediatrics reviewed the later work of Baumann published during that year. The latter found no advantage of the raw fruit diet (bananas, apples or apple powder) over other forms of therapy in cases of acute and subacute intestinal disturbances in the first nine months of life. He stated, however, that in older infants the raw fruit diet is the most advantageous form of treatment. The diarrhea is more quickly controlled and there is less danger of recurrence. He again concluded that the banana diet was preferable to the apple diet because of its higher caloric and salt content. The greater mineral alkali content of banana leads to better digestion of protein and assures normal metabolism. He preferred apple powder to apples because it does not contain the irritating fibers of fresh apples. Fruit juices and industrial pectin products had not been used successfully thus far (1936).

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*Read before the Orleans Parish Medical Society May 9, 1938.

Joslin of the University of Maryland reported in 1936 the study of banana and banana powder in three groups of cases, totalling 54: (1) the diarrheas, the majority being associated with parenteral infection; (2) the dysenteries; (3) typhoid fever. He summarized his conclusions as follows: (1) It would appear that banana therapy either in the form of the raw, fresh, fully ripe fruit or dehydrated (powder) may be used to advantage in diarrheal diseases; (2) it appears to prevent weight loss; (3) there was an immediate and appreciable reduction in the number of stools.

Brubaker at the Children's Hospital of Philadelphia studied the clinical aspects of the banana therapy in the treatment of 56 cases of acute diarrheal disorders. Twenty-four controlled patients were treated by "well recognized methods of therapy." He summarized his conclusions under two headings: "(1) The use of the banana powder or pulp is more efficacious than the well recognized methods of therapy for acute diarrheal disorders occurring in infants and young children. (2) The banana powder or pulp is a safe therapeutic procedure for infants and young children as prescribed in my series of cases." These results indicate that the banana powder or the banana pulp may receive favorable consideration in the treatment of those intestinal upsets occurring during the summer and fall months in infants and young children. In view of these facts the banana powder or pulp therapy should prove a useful addition to the physicians' armamentarium.

The purpose of this study conducted by me* during the past twelve months was to determine whether or not the favorable results and conclusions of Joslin, Brubaker, and the European investigators on this subject could be confirmed in the New Orleans' climate.

METHODS

The general method of handling these cases was only slightly modified from that of Brubaker. Slight variations were found necessary in some cases in order to obtain better clinical results. The materials used were: (1) fully ripe bananas creamed by the Manning-Bowman creamer; (2) banana powder (Melotose No. 1) (fully ripe) manufactured by Food Concentrates, Incorporated; (3) boiled water.

In the children and infants under thirty pounds the minimal amounts used consisted of one-third banana, or one level tablespoonful of banana powder per pound body weight in twenty-four hours. One and one-half to two ounces of water was used to dilute each tablespoonful of the banana powder. When ripe banana was administered sufficient water was given with the fruit or separately to maintain the daily fluid requirements.

Brubaker divided the total calculated daily amount of banana or banana powder into single feedings every two hours during the twelve hours of the day and double feedings at 10 p. m. and 2 a. m.

In the latter part of our work we divided the total twenty-four hour amount of banana or banana powder into ten single feedings which were fed at 6 a. m., 8 a. m., 10 a. m., 12 noon, 2 p. m., 4 p. m., 6 p. m., 8 p. m., 10 p. m., and 2 a. m.

At the end of forty-eight hours of banana or banana powder and water only, the infant or young child was placed on a so-called "transition diet," consisting of either skimmed cow's milk or skimmed lactic acid milk with banana or banana powder. In the milder diarrheas and in older infants and children other articles of diet were included in the second forty-eight hours of treatment, i. e., strained beef broth, well-cooked cereals, dry toast or crackers. If a recurrence of the diarrhea occurred, the patient was started back on the banana or banana powder treatment of the first forty-eight hours. In the cases of infectious diarrhea and bacillary dysentery, the transition diet consisted of skimmed lactic acid milk with banana or banana powder and, in most instances, was offered for longer than forty-eight hours according to clinical results.

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*Dr. M. D. Sterbcow has been associated with me during the entire work. At this time I wish to express my appreciation for his efficiency and interest in assisting me in the handling of the cases.

When breast fed infants were treated, the breast milk was withdrawn for forty-eight hours and then resumed at the end of that time. Care should be taken, however, to preserve the supply of breast milk during that time by artificial stimulation.

TYPES OF DIARRHEA

The cases studied included charity patients treated within Charity Hospital of Louisiana and the out patient department and private cases handled at home, at the office, and in private institutions.

The total number of completed cases consisted of the following types of diarrhea:

1. Dietetic		31
(a) Mechanical	5	
(b) Putrefactive	5	
(c) Fermentative	21	
2. Infectious		15
3. Parenteral		30
4. Bacillary dysentery		2

The reaction and character of the stools and the bacterial flora were studied, when the specimens were available, at the beginning and at the end of forty-eight and ninety-six hours of treatment.

In classifying the results obtained three factors were used in judging same: (1) clinical improvement; (2) a stool frequency of 4 or less in 24 hours; (3) the character of stools (i. e., clinical improvement was found to be associated with a large bulky, mushy, light brown stool and the disappearance of mucus and blood, when the latter were present at the beginning of treatment).

When these favorable results were obtained within forty-eight hours, the term excellent was used; within ninety-six hours, fair; and when not obtained within ninety-six hours, poor.

Mechanical diarrhea is undoubtedly the simplest form of diarrhea and is the result of the feeding of some specific indigestible food article. Five such patients were treated in our series: one with ripe banana and four with banana powder. The average duration of diarrhea at the beginning of treatment was 1.6 days. As to age, all of the five were above one year of age. The weights at the end of the ninety-six hours were not obtained as four of the cases were "cleared up" at the end of twenty-four hours and the fifth within forty-eight hours. The results in all five cases were, therefore, classified as excellent.

Putrefactive diarrhea is attributed to protein indigestion. Five patients of this type were treated: three with ripe banana and two with banana powder. The average duration of the diarrhea before therapy was 5.4 days. All five patients were over one year of age. The average gain in weight was 7.4 ounces; excellent results were obtained in all of them.

Fermentative diarrhea is usually attributed to carbohydrate indigestion. Twenty-one patients were treated: seven with ripe banana and fourteen with banana powder. The average duration of the diarrhea before treatment was five days. Fourteen of the patients were weighed, the average gain being 5.1 ounces. Ten of the patients were over one year and eleven under that age. The results obtained were: excellent, 18; fair, 2; poor, 1 (difficulty being encountered with the transition diet due to an extreme degree of malnutrition).

The term *infectious diarrhea* is used to designate that type of diarrhea in which an infection of the intestine is present and is caused by a number of micro-organisms or non-specific character. Fifteen patients were handled: six with ripe banana and nine with banana powder, with these results: excellent, 12; fair, 3. The average duration at the beginning of treatment was six days. Eleven of the patients were weighed and the average gain in ninety-six hours was 8.1 ounces. Ten of the patients were above one year and five under that age.

The term *parenteral diarrhea* designates that type of diarrhea secondary to infection outside of the intestinal tract. Thirty patients were treated, seven with ripe banana and 23 with banana powder, with these results: excellent, 22; fair, 4; poor (death), 4. As these cases occurred mostly in the winter months, the diarrhea was the result of some form of respiratory infection (at times associated with other conditions) with the exception of one case, which was secondary to pyelocystitis and septicemia. The average gain in weight was 1.9 ounces in 19 weighed patients. The four deaths of this series were caused not by the diarrhea but by (1) septicemia and pyelocystitis in one case; (2) by bronchopneumonia in the second case; (3) by bronchopneumonia and malnutrition in the third case; and (4) by bronchopneumonia and prematurity in the fourth case. In two of these cases the diarrhea had been checked at the time of death.

The term *bacillary dysentery* is used to indicate that type of infection of the intestine caused by the one of the strains of the B. dysenteriae. Two such patients were treated: one with banana and the other with banana powder. One patient was over one year of age and the other four months old. The duration of the diarrhea in the earlier case was three months; the last one of only a few days. The weight remained stationary in the first case; the child was discharged at the end of six days.

The last case was of a fulminating character and death resulted on the sixth day. Both cases were caused by the Flexner organism. Serotherapy had been used in the first case before banana powder had been instituted.

In practically all of the seventy-eight cases, the therapy was enjoyed by the patient with the mother stating that the infant or child would willingly have taken more than the amount offered. Two patients refused the banana powder but readily took the ripe banana.

Equally good results were obtained when the reaction of the stool was acid or alkaline at the beginning of treatment. No constant relation of the stools and the bacterial flora was found. It was observed, however, that the stools were fewer in number when the reaction was alkaline.

ACTION OF BANANAS

Various reasons have been advanced for the favorable action of the banana. But this subject still remains a very debatable one. Higgins states that with the large stools of the banana-fed infant, and possibly because of them, there is an increase of nitrogen in the stool. There is a corresponding decrease in the nitrogen in the urine. The retention of nitrogen is but little affected by banana diets compared with other sugars. A large part of fecal nitrogen is bacterial. Possibly some of the benefit of the feeding of banana may be the diminution of bacteriolysis in the colon, with diminished absorption of bacterial nitrogen.

Other explanations advanced are the pectin, the malic acid, and the butyric acid theories.

RESUMÉ OF CASES

Classification	Number	Therapy		Age		Results			Weight gain or loss in ounces	Per cent weighed
		B*	BP*	Over 1 yr.	Under 1 yr.	E	F	P		
1. Dietetic										
(a) Mechanical	5	1	4	5		5			----	0
(b) Putrefactive	5	3	2	5		5			+7.4	100
(c) Fermentative	21	7	14	10	11	18	2	1	+5.1	66
2. Infectious	15	6	9	10	5	12	3		+8.1	73
3. Parenteral	30	7	23	21	9	22	4	4	+1.9	63
4. Bacillary dysentery	2	1	1	1	1	1		1	+0.0	50
	78	25	53	52	26	63	9	6	+4.7 (aver. gain)	64

*B—Banana. BP—Banana powder.

SUMMARY

This clinical study has shown that:

1. Banana or banana powder therapy is of distinct advantage even in the first few months of life.

2. Gain in weight is usually recorded and when a loss does take place, it is usually negligible.

3. The characteristic banana stool, as previously described, is usually obtained very early and is associated with clinical improvement.

4. Banana or banana powder therapy is a safe, practicable, and a most efficient method of handling the diarrheas of infants and young children.

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DISCUSSION

Dr. M. D. Sterbcow (New Orleans): From clinical observation, I have found that in many cases stools became gram negative after patient has been fed banana powder or the banana pulp. I also found that when clinical improvement became evident the stool became alkaline. Stools were previously acid in reaction. This observation is similar to that of Joslin of the University of Maryland and others.

In practically all of my patients medication other than banana powder was omitted except in bacillary dysentery. Most of the patients, as stated by Dr. Socola, were practically well in forty-eight hours and were put on a transition diet. This was a great improvement over any other methods found so far, and it is a very simple and most economical method. It is very easy to explain and something that any mother can do. I think this is a great find in the treatment of diarrhea in infants and children.

Dr. E. A. Socola (In conclusion): A point that I failed to mention in my paper is that excellent results were obtained in many cases with banana or banana powder therapy where the usual accepted methods of diarrhea therapy had produced unsatisfactory results.

URINARY INFECTIONS AND THEIR MANAGEMENT*

I. B. ROUGON, M. D.
SHREVEPORT

In presenting this paper I am mindful of the fact that it covers a wide field and for that reason I am attempting to touch only the high spots of the subject.

During the past few years there have been some changes in the treatment of urinary infections. This has been due to the introduction of several new and efficient drugs and the ketogenic diet.

We have come a long way since the days when a pyuria was considered beneficial. In the old days it was thought to be draining poisons from the body. This advancement has been the result of the introduction of the cystoscope and the various diagnostic roentgenologic methods. As a result the science of urology is one of the most exact of the inexact sciences of medicine.

CLASSIFICATION

Infections of the kidney can be briefly classed as pyelitis, pyelonephritis and pyonephrosis. Since practically all renal infections are thought to be blood-borne, a simple pyelitis with involvement of just the pelvis of the kidney must be rare and transitory, and the result of the occasional retrograde infection. Pyelonephritis, as the name implies, is an inflammatory condition of the parenchyma of the kidney as well as the pelvis and is usually of chronic nature and is the result of blood-borne infections. In pyonephrosis, cavitation of the parenchyma exists. This is the result of parenchymal abscesses which communicate with the renal pelvis. If one or more of such cavitations exist and are of any size, whether the infection be pyogenic or tubercular, there is no treatment short of nephrectomy that will cure the condition.

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 4, 1938 at New Orleans.

Infection of the ureter usually results from infection spreading from above or, less often, from the bladder, below. There may be infection of the ureter in the female from salpingitis or cervicitis, and, in the male, prostatitis and seminal vesiculitis.

The bladder is rarely the seat of primary infection. It is practically always secondarily infected from the kidney above or the prostate, vesicles or urethra below. Therefore, one can see how futile treatment of a cystitis will be without treatment of the primary seat of infection.

EXAMINATION OF PATIENT

Examination of the patient is essential before a plan of treatment is formed. There are so many types of pathology which may cause a pyuria, which if not first corrected, will lead to failure in treatment. If any obstruction exists it must be corected. Obstructions may exist at the ureteropelvic junction, the result of scar tissue formation following infection, or exist because of some congenital deformity as fibrous tissue bands, or anomalous blood vessels which cause pressure at this point. There is probably no place in surgery where good drainage is as essential as in the urinary tract. There may be strictures of other portions of the ureter. An hypertrophied prostate, or strictures of the urethra, may exist which prevent complete emptying of the bladder.

If pyonephrosis, stones, tumors or a dead kidney exist these conditions must first be appropriately treated before the pyuria can be cleared up.

Thus one can readily see that roentgen rays, pyelograms, function tests and cystoscopy should be done. The blind treatment of pyuria is certainly not very rational in view of the means of examination we have in hand. The least a general practitioner should do is a plain urogram and intravenous pyelogram, which will give some idea of the pathology present and an idea as to the differential function of the kidneys.

A complete urinalysis should be done with examinations of the wet and stained centrifuged sediment. All specimens should be cultured, for the plan of treatment depends to a large extent on the type of organism causing the infection.

Since the majority of renal infections are blood-borne, one must search for foci of infection. The teeth, tonsils and sinuses must be examined as well as the prostate and vesicles. If a focus persists, the urinary infection, if one is able to clear it up at all, will certainly return. The skin may also be the seat of the focus as the majority of carbuncles of the kidney are secondary to a furuncle or abscess of the skin. I may add here in passing that a carbuncle of the kidney frequently exists without any of the urinary findings of infection. This is one of the reasons an early diagnosis of this condition is usually difficult to make.

TREATMENT

There is a difference in the treatment of the acute and chronic urinary infections. Fluids should be forced in the acute infections and this is best done with 5 per cent glucose in saline by vein or clysis. Fluids by mouth do not seem to have the same beneficial effects. Fluids are probably best restricted in the chronic infections for it helps get concentration in the urine of the various drugs administered. Regardless of the type of infection, in the acute stage alkalies often make the patient more comfortable. Uritone intravenously is a very beneficial drug and in spite of the newer drugs urotropin still holds a very definite place in the treatment of urinary infections.

Examination during the acute stage should be limited to a plain urogram, intravenous pyelogram and urinalysis as cystoscopy at this time is not to be advised, unless some obstructive lesion exists as, for example, a stone in the ureter which has blocked the kidney. If there is obstruction due to an enlarged prostate a retention catheter should be strapped in the urethra. Be sure, however, that the infection is not due to the gonococcus as a retention catheter in such a case would most probably lead to epididymitis.

If the infection is of staphylococcal origin, neosalvarsan in 0.3 gm. doses every three or four days for a few doses is very beneficial and appears in some cases to be almost specific. In streptococcal and staphylococcal infections one must check for foci of infection very carefully. If the infection is due to Bacillus coli I have found that acidification of the urine is the best. This may be done by means of the ketogenic diet. This is a diet high in fats and proteins and low in carbohydrates. It produces a highly acid urine and causes the excretion of beta-hydroxybutyric acid which is at least bacteriostatic, and claimed by some to be bactericidal. The pH of the urine must get to 5.5 or below and be kept there. This can be readily determined by testing the urine several times a day with indicator paper. The patients can be trained to keep check on themselves.

The drawback is, the diet is not palatable and frequently causes gastric upset, making the patient not too willing to cooperate. To carry out this line of treatment hospitalization is often necessary. There is no such thing as an almost ketogenic diet. One must either follow the diet implicitly or change to another form of treatment.

More recently mandelic acid has been made available. The action of this drug is practically the same as beta-hydroxybutyric acid. The urine must be kept at a pH of 5.5 or less for a period of two weeks at which time a rest is given and if necessary one or more courses of treatment given.

If sufficient acidification is not obtained with either mandelic acid or the ketogenic diet this may be augmented by the simultaneous administration of such drugs as ammonium chloride, acid sodium phosphate, or ammonium nitrate. These drugs are used from 15 to 90 grains a day.

This form of treatment is very efficacious in Escherichia coli infection. Some cases of Bacillus aerogenes are benefited, but the majority are not. Streptococcus fecalis responds to this form of treatment.

In the treatment with the ketogenic diet or mandelic acid, the function of the affected kidney must be good because it is essential that mandelic acid or beta-hydroxybutyric acid be excreted in sufficient concentration before results are to be obtained. Thus, in many partially crippled kidneys where we are so anxious for success, we are not able to obtain it. If we are not getting results it is necessary to catheterize the affected kidney and test the pH of the urine, because, though the bladder urine be what we desire, yet the affected kidney may be so damaged as to be unable to put out a urine of high enough acidity to be effective.

Sulfanilamide, the most recent of the urinary drugs is as yet too new, except in gonorrhea, to evaluate. Though elsewhere in the body it is advised for staphylococcal and streptococcal infections, it is also good for bacillary urinary infections. Cook claims it produces very good results in Bacillus aerogenes infection. It will not benefit streptococcus infections at all and these had best be treated by mandelic acid therapy.

My results in gonorrhea have not been as good as some others report. I believe sulfanilamide will cure probably 50 per cent of the cases without further treatment. However, I am sure of the fact that it has reduced the complications to a minimum, and has made the treatment of all cases a much cleaner job. There is also no question that it does ruin the morale of the patient and we find it more difficult to make him remain with us until we are sure he is well. The drug also is rather treacherous, for I have seen patients in whom the discharge ceased very early and repeated examinations over several weeks made one believe the patient was well, only to have him return several weeks later, say after an alcoholic or sexual debauch, with a discharge as profuse and as full of gonococci as when he was first seen.

The various dyes as pyridium, serenium and methylene blue have not proved to be as valuable as their manufacturers would have one believe. They do help the occasional case.

I have tried bacteriophage in only two patients. One case was not a very fair test as the patient had a cystitis cystica. The other case was a woman who had a Bacillus aerogenes infection of the bladder which had produced a membranous exudate like that seen in diphtheria. This membrane covered the trigone. She received treatment of all kinds over a period of two months with no results at all. In despair bacteriophage was tried and I must say to my surprise the first instillation of the drug caused the first symptomatic relief the patient had experienced. Examination revealed that the membrane had disappeared. The course of treatment was completed and the patient was completely cured.

In the use of bacteriophage it is absolutely essential that a culture of the urine be made because the specific phage of sufficient strength must be used. Reporters claim from 45 to 50 per cent cures with its use, but many others who have tried it have met with failure.

CONCLUSIONS

1. A careful examination of the urogenital tract is essential to determine whether some pathology exists that will not respond to drugs alone before treatment is begun.
2. Careful examinaton of the urine, both microscopic and cultural, should be done as the plan of treatment is dependent on these findings to a great extent.
3. The various therapeutic measures were discussed.

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6 Cook, E. N., Buchtel, H. A.: Mandelic Acid in the Treatment of Infections of the Urinary Tract. Collected Papers of the Mayo Clinic, W. B. Saunders Co., 1937, p. 395.

7. Cook, E. N.: Infections of the urinary tract of obscure etiology, J. Urol., 36:460, 1936.

DISCUSSION

Dr. Edgar Burns (New Orleans): Dr. Rougon has covered the subject very well and after looking over a copy of his paper I find very little to add in the way of discussion except to analyze a number of cases treated with the modern drugs and diet and simply show you the results obtained in each one. (Slides shown).

Dr. I. B. Rougon (In conclusion) The point which I wanted to bring out in this paper was the fact that there are no specific urinary antiseptics. We have lots of valuable urinary antiseptics but in treating these cases we should select the antiseptics most suitable for the particular type of infection with which we are dealing. Pus in the urine means pathology somewhere in the urinary tract and it is up to us to find out where it comes from; whether or not there is interference with drainage and the type of organism causing the pathology, before any intelligent form of treatment is instituted.

NEW ORLEANS
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THE SPECIAL SESSION OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

There was held in Chicago, September sixteenth and seventeenth, a very important meeting of the House of Delegates of the American Medical Association. This is one of the very few times that a special meeting of the representatives of the medical profession throughout the country has been called together for special consideration of factors affecting the medical man. Full proceedings of this special session are published in the Journal of the American Medical Association which appeared the following week. Every medical man in the state should devote an hour to the reading of these proceedings and another hour, at least, to giving thought to them. They show to the practitioner of medicine why it was necessary to call a special session, and they will show as well why our profession is opposed to the socialization of medicine. The address of President Abell, of Speaker Shoulders, of President-elect Sleyster, as well as the statement of the Chairman of the Board of Trustees, Doctor Booth, sound the keynote of the meeting and express the sentiments of the medical profession. These addresses definitely should be perused thoughtfully by those who are interested in the future of medicine in this country.

The House convened and, after listening to the addresses mentioned above, it was deemed advisable to appoint a Reference Committee to consider the details of the actions taken at the meeting of the National Health Conference called by the Federal Interdepartmental Committee to Coordinate Health and Welfare Activities. This Committee of the House, on which Doctor Graves, a representative of Louisiana, served, plus several other committees, of one of which Doctor Seemann, the other representative of Louisiana, was chairman, held prolonged meetings to consider various phases of the Health Conference's actions. They gave hearing to the delegates who were not members of the committees and who represented various states, many of which had taken action and had instructed their delegates how they wished them to represent them. After many, many hours of consideration of the problems involved, the committees reported back to the House of Delegates as a whole. It is particularly important that the report of the Reference Committee on consideration of the National Health Program be studied. Very briefly and in abstract, the report of this Committee is appended: Section one recommends the establishment of a federal department of health with a secretary who should be a Cabinet officer and a doctor of medicine. This section of the report pointed out that public health measures should not include the treatment of disease except under certain unusual circumstances. Section two of the report expressed the opinion that it was not so much a question of expansion of hospital facilities as it was a matter of greater utilization of existing hospital facilities. The Committee's recommendation was accepted and passed by the House of Delegates.

Under section three, it was stated that the medical profession appreciates the necessity to appropriate funds to take care of the medically indigent. It said that politics should be kept out of the procedures adopted to put this into effect, and too, that any provision for medical services should be carried out in cooperation with the local medical profession.

Section four of the Committee's recommendations, which has to do with the general program of medical care, was adopted by the House with one or two slight amendments. In this section, the Committee approved the principle of hospital service insurance, but noted that this insurance should confine itself to provision of hospital facilities and not include medical care. It pointed out that this was a local problem. Then it expressed the opinion that some method to develop cash indemnity insurance to cover the costs of emergency or prolonged illness is practical; it then recognized the soundness of the principles of the workmen's compensation laws. It stated that voluntary indemnity insurance would assist in the solution of the problem of financing sickness.

In section five, the Committee heartily endorsed the principles of compensation for loss of wages during sickness.

As a last recommendation, the Reference Committee advised that a committee of seven physicians representative of the medical profession should be appointed by the Speaker to confer with appropriate federal representatives who are dealing with the proposed National Health Program. This is positive evidence that the medical profession is willing, even anxious to cooperate in every way with those governmental representatives who may consider the whole matter of a National Health Program.

It should be obvious to the man whose medical contacts are only occasional and who has read the report of the meeting in Chicago in the lay press that the medical profession is willing to cooperate in every way possible in the care of the indigent. It is equally plain that the medical profession will do all in their power to improve health conditions in this country and to relieve the low income group of the vicissitudes of sickness. The medical profession, it should be clear, is not holding back the wheels of progress. They are heart and soul, as always, helping the poor, the needy and the sick. As an expression of this desire to be of service, it should be stated that all over this country states, counties and municipalities have in active practice plans to help medically the families of those who are financially handicapped, devised by the medical profession, which are demonstrating that the medical profession is not holding back in doing their share. They are doing it, most definitely. Unfortunately, the most elaborate propaganda ever set up in this world is emanating from Washington. Material from this source apparently has put the physicians on the defensive. There is no need for members of the profession of medicine to act as if they were defending themselves. They positively are not, but the medical profession, as one of the statements from the Reference Committee substantiates, is convinced that a complicated bureaucratic system of medical control has no place in a democratic state, and that it would undoubtedly set up a tax system which would greatly increase the cost of government.

The American medical profession, represented by the committee of doctors appointed by Doctor Shoulders, is willing to sit down with government representatives to discuss sanely, calmly and sensibly the problems of medical care of the economically poor of this country, but they should ask that such a meeting not be motivated by hysterical mouthings, by unsubstantiated data and by facts which are not proved.

POSTMORTEM EXAMINATIONS

There is nothing of greater importance to the progress of medical science and the physician than properly conducted postmortem examinations. The Utopia would be the opportunity to conduct postmortem examinations on all cases. In all hospitals every effort is used to emphasize the importance of autopsies to the staff and to increase the percentage of autopsies secured. All outstanding medical organizations having anything to do with rating of hospitals consider the percentage of autopsies secured an important index of the efficiency and excellence of that hospital.

In spite of these facts, very little has been done by the medical profession to educate the general lay public in this matter in an attempt to secure their greater cooperation, and what attempts have been made in this direction usually emphasize the importance of postmortem examinations to the progress of medicine by the accumulation of information. Occasionally the point is made in such discussions that the information secured will be of benefit to the family as regards the health of other members. But this phase, the benefit of the postmortem to the family, has been apparently neglected. Often the first introduction the responsible members of the family have to the subject is immediately after the death of a dear one, when they are asked for the permission to do an autopsy, and at that time they are so emotionally upset that they are unable to render an intelligent decision. So, many autopsies are lost.

In a recent paper read before the American College of Physicians*, Dr. Alan Gregg discussed this phase of the subject and offers a suggestion that the layman receive more education in this matter, and that the subject be emphasized in its importance to the layman rather than to the medical profession. As stated before, seldom has it been stated convincingly why laymen should permit or be glad to have autopsies performed.

Doctor Gregg's suggestion is that the lay public should be taught that autopsies are his insurance for securing competent medical attention and increasing the physician's incentive to his best performance. If the layman realized this and had an understanding with the physician at the onset of a serious illness that in the case of a fatal outcome an autopsy would be done, would this not increase the care of the physician and increase necessary consultation? Would this not be a method of suggesting to the layman how to improve his selection of medical care?

So, the advice would be: "Explain to whomever you call that if death comes a postmortem will be required." Perhaps, realizing such a request will be in their own interests, at no greater risk to themselves, the lay public may be taught to seek the postmortem as a method of safeguarding their interest, something to be desired rather than feared.

This approach is new and interesting, and deserves consideration. If it is well thought of, the lay public should be made familiar with this idea by circularizing this matter among them.

—W.

THE HEART IN OBESITY

In the criteria for the classification and diagnosis of heart disease of the New York Tuberculosis and Health Association, approved by the American Heart Association, there is no etiological group to include a possible group of heart disease due to obesity. It seems, therefore, that the possibility of obesity per se producing cardiac disease and insufficiency is either totally overlooked, of questionable significance, or considered of very minor importance. Certainly it seems to be true that there are cases of cardiac insufficiency in which obesity is apparently the only causative factor. It is true that these cases are relatively few and that most cases of cardiac insufficiency in the obese are associated with other organic dysfunction, such as arteriosclerosis, hypertension, et cetera, where obesity is an added secondary factor.

In a recent article by F. A. Willius[1] on this subject, the term "adiposity of the heart" is offered as the most appropriate term for the involvement of the heart in obesity. The pathology, as far as the heart is concerned, consists in a penetration of the fatty tissue between the heart muscle bundles and sometimes even between the individual muscle fibers. In addition, there is, of course, generalized increased fat in practically all of the tissues of the body. The accumulation of fat over the heart, especially over the right ventricle, is also demonstrated, and both of these factors cause mechanical and nutritional embarrassment. Doctor Willius discusses a study of 136 hearts in obese patients by Smith and Willius[2] in which they show that in 7 per cent of these cases "adiposity of the heart" was the only etiological factor responsible for the production of congestive heart failure.

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*Gregg, Alan: A broader view of postmortem examinations, Ann. Int. Med., 12:249, 1938.

It seems important, therefore, that we realize that in addition to the hazards of obesity with which we are already very familiar, and which the insurance companies have always carefully regarded, there is this additional, rather poorly recognized danger to be thought of. The summary of the article mentioned enumerates the causes of embarrassment of the heart and circulation to be due to the excessive fatty deposits in and around the myocardium; the increase of cardiac work through increase in body weight; the increase in cardiac work because of the increased vascular bed in the fatty deposits, and increased total metabolism of these obese individuals.

—W.

PUBLIC WELFARE SERVICE

In the September issue of the Journal, in the Transactions of The Orleans Parish Medical Society, the complete outline of the working arrangement made by The Orleans Parish Medical Society with the Department of Public Welfare of New Orleans was published. As stated, the instructions were largely tentative or subject to change. It is noteworthy that 143 doctors have volunteered to assist in this cooperation with the Department of Public Welfare to furnish medical service and surgical service to more than 7,000 persons on the roles of the Department of Public Welfare. It seems that the arrangement has been carefully and thoughtfully worked out and should be a practical method of dealing with this problem. Any local physicians desiring further information regarding this matter may communicate with the Orleans Parish office.

—W.

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[1] Willius, F. A.: The heart in obesity, Modern Concepts of Cardiovascular Disease, 7: No. 9, September, 1938.

[2] Smith, H. L., and Willius, F. A.: Adiposity of the heart; a clinical and pathologic study of 136 obese patients, Arch. Int. Med., 52:911, 1933.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR

October 3.	Board of Directors, The Orleans Parish Medical Society, 8 p. m.
October 3.	Pathologic Conference, Hotel Dieu, 8:15 p. m.
October 4.	Eye, Ear, Nose and Throat Hospital Staff, 8 p. m.
October 4.	Clinical Pathological Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
October 4.	Hutchinson Memorial Clinic Staff, 8 p. m.
October 4.	Mercy Hospital Staff, 8 p. m.
October 5.	Clinicopathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
October 10.	ORLEANS PARISH MEDICAL SOCIETY, 8 p. m.
October 12.	Clinical Pathological Conference, Charity Hospital and L. S. U. Medical Center, L. S. U. Medical Center, 2 p. m.
October 12.	Touro Infirmary Staff, 8 p. m.
October 12.	New Orleans Hospital Council, Hotel Dieu, 8 p. m.
October 14.	French Hospital Staff, 8 p. m.
October 17.	Hotel Dieu Staff, 8 p. m.
October 18.	Charity Hospital Medical Staff, 8 p. m.
October 19.	Clinical Pathological Conference, Charity Hospital and L. S. U. Medical Center, L. S. U. Medical Center, 2 p. m.
October 19.	Charity Hospital Surgical Staff, 8 p. m.
October 20.	Clinicopathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
October 20.	Eye, Ear, Nose and Throat Club, 8 p. m.
October 21.	I. C. R. R. Hospital Staff, 12 noon.
October 21.	New Orleans Dispensary for Women and Children Staff, 8 p. m.
October 24.	ORLEANS PARISH MEDICAL SOCIETY, 8 p. m.
October 25.	Baptist Hospital Staff, 8 p. m.

October 26. Clinical Pathological Conference, Charity Hospital and L. S. U. Medical Center, L. S. U. Medical Center, 2 p. m.
October 27. Clinicopathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.

During the month of September, no regular meetings were held as the Society was still in summer recess. However, important work was carried on by various committees. The President appointed a special committee to study medical care for low income groups. This committee had several meetings to discuss this question. Dr. Shirley Lyons, President, attended the special meeting of the American Medical Association when this subject was also discussed.

NEWS ITEMS

Drs. Howard Mahorner and Frank L. Ramsay read papers before the South Mississippi Medical Society at Laurel, September 8.

Dr. Cassius L. Peacock, First Vice-President of the Louisiana State Medical Society, visited the seventh and third districts in the interest of the membership drive of the State Society.

Dr. Alton Ochsner was guest speaker of the Utah State Medical Society at their meeting September 1-3, and of the Cleveland Academy of Science, September 16.

Dr. John H. Musser addressed the members of the American Hospital Association in Dallas on Monday, September 26, and the Tarrant County Graduate Medical Assembly in Fort Worth on Tuesday, September 27.

Dr. Rudolph Matas is on the editorial board of the new journal, The American Journal of Medical Jurisprudence, the first number of which has just come to the office of the Journal.

There is an opening in pediatrics and general medicine on the staff of a privately owned hospital. The applicant should be one of intensive pediatric internship and residency, a young man, preferably married.

For further details, apply to the Department of Pediatrics of Tulane University.

Gilbert C. Anderson, M. D.,
Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

SECOND DISTRICT MEDICAL SOCIETY

A meeting of the Second District Medical Society was held on September 15, at the Metairie Golf Club. Dr. J. L. Smith was host and the following members were present: Drs. P. A. Donaldson, E. P. Feucht, J. B. Gray, W. F. Guillotte, J. E. Clayton, L. T. Donaldson, Jr., L. O. Waguespack, N. K. Edrington, J. W. Atkinson, J. S. Kopfler, A. V. Friedrichs, R. F. Sharp, J. L. Smith and Fred S. Herrin.

The following officers were elected for the coming year:

President: Dr. J. E. Clayton, Norco.
Vice-President: Dr. R. F. Sharp, New Orleans
Secretary-Treasurer: Dr. F. S. Herrin, Destrehan.
Delegate: Dr. J. S. Parker, Reserve.
Alternate: Dr. J. S. Kopfler, Kenner.

Dr. A. V. Friedrichs will be host at the October meeting, which will be held at the Colonial Country Club.

Fred S. Herrin, M. D., Sec.

TULANE POSTGRADUATE CLINICS

During the week of October 24-29, 1938, the faculty of the School of Medicine, through the Department of Graduate Medical Studies, will give intensive medical instruction in medicine and its allied branches and surgery and its branches. The forenoons will be devoted to dry clinics and the afternoons to fifteen minute talks with five minutes between lectures for questions and answers. The only charge for the course is the registration fee of $5.00.

SPECIAL MEETING OF HOUSE OF DELEGATES

At the special called meeting of the House of Delegates of the American Medical Association, there were invited to attend not only the official delegates of the House, but also, as guests of the American Medical Association without the privilege of voting, the secretaries of the state medical societies throughout the country and the editors of their constituent medical journals. Dr. W. H. Seemann and Dr. J. Q. Graves attended in their official capacity; Dr. J. H. Musser represented the New Orleans Medical and Surgical Journal; Dr. Shirley C. Lyons represented the Orleans Parish Medical Society as well as served as the representative of Dr. P. T. Talbot who was out of town.

AN INVITATION

To All Physicians of the South:

The Oklahoma County Medical Society takes pride in the fact that on November 15-18 of this year it will act as host to the Southern Medical Association. This great meeting will be the culmination of dreams and desires which began many years ago and which have slowly come to pass through the growth of our city to a point of size and prominence which enables us properly to take care of such a large number of guests. From the beginning we have realized that in order to entertain six to eight thousand doctor friends, we must have sufficient hotel facilities and a sufficiently large auditorium to make the meeting both comfortable and instructive to all concerned. We are happy to say that we now possess both.

The new Municipal Auditorium is one of the most beautiful architectural creations which has been constructed during recent years. It is located in the downtown district and is surrounded by other buildings of the Civic Center group. Its main auditorium will seat seven thousand with great comfort. Its acoustic facilities are so excellent that those in the back seats can hear as well as those close up to the platform. Its Hall of Mirrors will accommodate twelve hundred. Its Little Theater will seat five hundred; and it has twenty-four committee and conference rooms, each of which will accommodate audiences of fifty to four hundred, thus taking care of any number of sectional meetings which may be listed on the program. Under such conditions it will not be necessary for visiting physicians to go about from hotel to hotel or from church to theater, scattering their energies walking from one section of the meeting to another.

Not only is our auditorium capable of handling the Southern Medical Association, but we are happy to announce also that due to recent hotel construction, Oklahoma City now has enough hotel beds to take care of any convention. In 1935 only three southern cities had more hotel beds than Oklahoma City. Today there are only two, so that those physicians who plan to come and bring their families along with them will be able to find cool, comfortable quarters in which to rest while they are not attending the meeting.

Our local medical organization has been slowly welding itself into a unit of service during the past five or six years and is now trained to handle a large meeting. Through the successful management of the Oklahoma City Clinical Society sessions during the past seven or eight years, our members have learned the duties of hosts. They know how to take care of those who are away from home; they know how to run programs on time; they know also how to see to the successful correlation of social and scientific activities. The tentative plans for this year's program give assurance that it will offer a wealth of scientific papers and exhibits covering the whole field of medical practice. The entire first day will be presented by Oklahoma City members, and there will be in all more than six hundred papers and discussions in nineteen different fields.

Make your plans to be with us November 15-18, and you will learn that Oklahoma City is one of the most interesting places in the United States. Possibly the youngest large city, its phenomenal growth has been due to a large number of factors which other cities look upon with great interest if not almost with envy. Its early history was one of great romance, beginning with the run of 1889 and culminating with the finding of one of the world's largest oil fields underneath the soil which supports its residences and skyscrapers. A program of entertainment has been planned for your diversion, which will feature the various phases of Oklahoma City's history and which will show you what a splendid future is in store for those who make this their home. We feel perfectly sure that if you can find the time to leave your practice and come to Oklahoma City for the Southern Medical Association meeting, you will always be glad you did so.

The Oklahoma County Medical Society.

INTERNATIONAL PHYSICIANS' LUNCHEON CLUB

The International Physicians' Luncheon Club of New York extends a most cordial invitation to physicians visiting New York to be honored guests at an international luncheon, at the same time offering the services of the members of the club for any information they may desire. Luncheon is served at the International Medical Center, 135 East 55 Street, New York, every Tuesday punctually at one o'clock and is over about two o'clock. Physicians are kindly requested to inform the club of their presence not later than 9 a. m. Tuesday by telephoning Wickersham 2-7900, or writing International Physicians' Luncheon Club, 135 East 55 Street, New York.

THE AMERICAN PUBLIC HEALTH ASSOCIATION

The sixty-seventh annual meeting of this association will be held in Kansas City, Missouri, October 25-28, 1938. More than four hundred papers and reports will be presented. The delegates will be drawn from every state in the Union, and from Canada, Cuba and Mexico as well. The speakers' group includes many nationally known leaders.

SYMPOSIUM ON MENTAL HEALTH

A Symposium on Mental Health will be held by the Section on Medical Sciences of the American Association for the Advancement of Science at its winter meeting in Richmond, Virginia, on December 27-31, 1938. This symposium will be the first on the subject of mental hygiene to be presented under the auspices of this great scientific body, and one of the most important and significant conferences ever held in this field.

INTERNATIONAL CONGRESS ON COMPARATIVE PATHOLOGY

This fourth International Congress will be held in Rome, Italy, May 15-20, 1939 and will comprise three sections: (1) Section on Human Medicine; (2) Section on Veterinary Medicine; (3) Section on Phytopathology. The right to attend the Congress will be granted to all who send in a regular application accompanied by the required membership fee in lire (international money order or bank draft). Application and fee may be sent either through the applicant's National Committee or directly to the Secretariat of the Congress, Consiglio Nazionale delle Ricerche, Piazzale delle Scienze, Roma, Italy.

AMERICAN CONGRESS ON OBSTETRICS AND GYNECOLOGY

The first American Congress devoted to a consideration of medical, nursing and other problems associated with human reproduction will be held in Cleveland, Ohio, September 11-15, 1939, inclusive. It will be designated as The American Congress on Obstetrics and Gynecology. The promotion and sponsorship of the Congress has been delegated to the American Committee on Maternal Welfare, Inc.

The purpose of this Congress is to afford opportunities for discussing and publicizing the problems associated with human reproduction and the health of women and newborn babies. The value of more generally disseminated knowledge about the processes and problems of human reproduction and of the special diseases of the female generative organs and the newborn is important in the maintenance of public health, and therefore the interest of woman's welfare extends not only to the medical profession but to associated groups, including nurses, public health officials, hospital administrators, eugenists and many others.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next examinations (written and review of case histories) for Group B candidates will be held in various cities of the United States and Canada on Saturday, November 5, 1938, at 2:00 p. m., and on Saturday, February 4, 1939. Application for admission to the written examination scheduled for February 4, 1939, must be filed on an official application form in the office of the Secretary at least sixty days prior to this date (or before December 4, 1938).

The general oral, clinical and pathological examinations for all candidates (Groups A and B) will be conducted by the entire Board, meeting in St. Louis, Missouri, on May 15 and 16, 1939, immediately prior to the annual meeting of the American Medical Association. Application for admission to Group A examinations must be on file in the Secretary's office before April 1, 1939.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Bldg., Pittsburgh (6), Pa.

NEWS ITEMS

Dr. Isidore Cohn, Professor of Surgery and Associate Director of the Department, Graduate School of Medicine, Louisiana State University Medical Center, has been chosen to deliver the Fracture Oration at the annual meeting of the American College of Surgeons in New York on October 20. The subject of Dr. Cohn's address will be "The Evolution of Fracture Treatment."

The Conference on Rural Medicine will take place at The Mary Imogene Bassett Hospital, in Cooperstown, New York, on October 7 and 8, 1938.

At the invitation of the American Congress of Physical Therapy, Dr. Nathan H. Polmer, of the Graduate School of Medicine of the Louisiana State University Medical Center, participated in the postgraduate instruction seminar given by them in connection with their annual meeting in Chicago from September 12-15.

Dr. Thomas Benton Sellers, of the Department of Gynecology of the Graduate School of Medicine of the Louisiana State University Medical Center, gave the John Paine Address at the annual meeting of the Texas Obstetrical and Gynecological Society in San Antonio on September 24. Dr. Sellers conducted a clinic in the morning. In the evening he spoke on "Sterility" and on "Hysterosalpingography."

INFECTIOUS DISEASES IN LOUISIANA

The weekly morbidity reports furnished us by Dr. J. A. O'Hara, epidemiologist for the State of Louisiana, contain the following data: During the thirty-third week of the year, ending August 20, 1938, the diseases prevailing in greatest number were syphilis, pneumonia, pulmonary tuberculosis, cancer, whooping cough, diphtheria, gonorrhea, malaria, typhoid fever and scarlet fever, in that order. The typhoid fever cases had diminished as compared with the previous week, and as compared with the same week of 1937. Orleans Parish reported the greatest number of these cases, namely three, the rest being scattered throughout ten other parishes. It is interesting to note the marked increase in the number of reported cases of syphilis this year as compared with those of the same week in last year: 332 for this particular week of 1938 as compared with 44 for the same week of 1937. Two cases of poliomyelitis were reported, one in East Baton Rouge Parish and one in Orleans. During the thirty-fourth week, ending August 27, 1938, practically the same diseases were in preponderance. The syphilis cases had decreased to 107 and the scarlet fever cases to three. The same number of typhoid fever cases, namely 14, were reported. One case of typhus fever was reported from Rapides Parish. The following week, ending September 3, the diseases were reported as follows: syphilis, 323; malaria, 57; pulmonary tuberculosis, 48; cancer, 42; pneumonia, 34; whooping cough, 22; gonorrhea, 15; and typhoid fever, 13. Scarlet fever had increased to 8. The reported cases of gonorrhea were quite less than the 71 cases reported in the same week of 1937. For the week ending September 10, the most prevalent diseases reported were as follows: syphilis, 200; gonorrhea, 51; whooping cough, 40; pneumonia, 38; pulmonary tuberculosis, 32; cancer, 29; malaria, 27; and typhoid fever, 12. Three cases of septic sore throat were reported at this time in New Orleans.

HEALTH OF NEW ORLEANS

The Weekly Health Index, furnished by the Department of Commerce, Bureau of the Census, reports that during the week ending August 13, 1938, there were 137 deaths in the City of New Orleans, as compared with 154 deaths for the previous week. These were distributed so that there were 86 in the whites and 51 in the negro. There were 22 deaths in children under one year, the same number as had occurred the previous week in that same age group. In the following week, ending August 20, the total number of deaths had increased to 174, 113 white and 61 negro. Twenty-three deaths occurred in children under one year; of these deaths in children under one year, 16 were white and 7 negro. For the week ending August 27, the report shows that the deaths had increased to 211, as compared with 174 the previous and 138 for the three-year average in the corresponding week for 1935-1937. One hundred twenty-nine of these deaths were in the whites and 82 were in the negro. The infant mortality under one year had increased to 33, as compared with 23 the previous week, and as compared with 17 for the three-year average. During the week of September 3, 1938, 167 deaths were reported, almost evenly divided 86 whites and 81 negro. The infant mortality had markedly decreased to 7, as compared with 33 the previous week, all of these deaths being among the whites.

WOMAN'S AUXILIARY

Louisiana State Medical Society

President—Mrs. Frederick G. Ellis, Shreveport.

President-elect—Mrs. S. M. Blackshear, New Orleans.

First Vice-President—Mrs. C. A. Martin, Welsh.

Second Vice-President—Mrs. A. G. McHenry, Monroe.

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Corresponding Secretary—Mrs. C. B. Erickson, Shreveport.

Historian—Mrs. W. P. Gardiner, New Orleans.

Mrs. Frederick G. Ellis, President of the Woman's Auxiliary to the Louisiana State Medical Society, was the honor guest of the Rapides Parish Auxiliary on September 16. After luncheon, there was a round table discussion of auxiliary affairs, with Mrs. Ellis leading in a very delightful and informing manner. Alexandria is making plans for the State Meeting next spring.

Mrs. R. B. Wallace, 2225 Jackson St., Alexandria, has been appointed Councilor for the Eighth District.

BOOK REVIEWS

Injuries and Diseases of the Hip—Surgery and Conservative Treatment: By Fred. H. Albee. New York, Paul B. Hoeber, Inc. Pp. 298. Price $5.50.

This is the first work written exclusively about affections of the hip. The main purpose of the work is to present the various surgical procedures for hip conditions. The author's methods are presented in detail, as well as the other accepted methods.

The first chapter is an introductory one concerning mainly the advances that have been made in hip joint surgery within the past thirty years.

The second and third chapters deal with the armamentarium for hip work and with the surgical anatomy of the hip region. Methods of approach to the hip joint are discussed.

The next chapter takes up fractures of the hip. Here the author takes issue with the other methods of treatment as not being physiologic. He is a strong advocate of the bone-graft peg in intracapsular fractures, both in the recent case and in cases of non-union.

Chapter five treats of dislocations of the hip. In the congenital type the author advocates his bone-graft method of producing a shelf in cases where operative intervention is indicated.

Tuberculosis and other forms of arthritis are dealt with in the next two chapters. Various other conditions are described in the last five chapters, arthroplasty being treated in one of them.

This work is an exceedingly valuable contribution to orthopedic literature. It covers practically all of the important subjects dealing with the hip joint.

G. C. Battalora, M. D.

Essentials of Prescription Writing: By Cary Eggleston, M. D. Philadelphia, W. B. Saunders Co., 1938. Pp. 155. Price $1.50.

This is a very small book containing every essential of prescription writing. Differing from many texts on this subject, it does not contain a large number of written prescriptions, each to be used for some particular disease or condition. Careful attention is given the proper construction of a prescription, each part being clearly and thoroughly explained in its chronologic order. For the physicians who write prescriptions in Latin, there will be found a very useful review of the necessary Latin grammar. The chapters on vehicles and incompatibilities are brief and for all practical purposes embody everything that goes to make the difference between a well written and a poorly written prescription.

The book, while especially well suited for medical students' use, has an undeniable place with every practitioner. As a result of highly specialized proprietaries combined with the success of highly trained detail men, the present day tendency is away from the "real prescription," the writing of which demands a knowledge of the U. S. P. and National Formulary drugs and preparations.

L. A. Monte, M. D.

Medical Writing: By James H. Dempster, M. A., M. D. St. Paul, Bruce Publishing Co., 1937. Pp. 168. Price $2.50.

This publication starts the medical author at the very beginning of his preparation of the manuscript and carries him through to the completed work. The book tells how to prepare medical papers, how to secure the best types of illustrations, how to get up a bibliography, how to list references, how to get the manuscript off to the editor, how to correct proof and how to do everything as a matter of fact concerned with the submission of a well prepared, well thought out and accurately written manuscript. There are some very excellent suggestions in the book which the neophyte or even the experienced medical writer could very well make use of to the satisfaction of himself and to the pleasure of the editor.

Possibly the hearty approval of this book by the reviewer may be motivated by selfishness, but it is possible to assure the medical writer that his manuscript is very much more likely to be acceptable to an editor if it is well written and carefully prepared, irrespective of the contents of the manuscript, than if it is untidy, poorly written and typographically wretched.

J. H. Musser, M. D.

The Conquest of Cholera: By J. S. Chambers, M. D. New York, Macmillan Co., 1938. Pp. 366. Price $4.75.

This is really a fascinating book. It is well written and intelligently constructed with a keen historical appreciation of how the disease cholera affected this country at the time it was rife. The author traces various cholera epidemics that occurred in this country from the time of the first invasion in 1832 until the time of the last real epidemic nearly 65 years ago. The person unacquainted with medical history will hardly appreciate the ravages of cholera in the United States and the horrible after-effects of the disease. At times whole communities were almost desolated as result of cholera. The largest cities often became stagnant with business completely at a standstill, not for days or weeks but sometimes for months.

New Orleans was one of the metropolitan communities in the country that suffered bitterly from the disease. There were at least six great epidemics in New Orleans and at least one of them, to read the account of Chambers, was as bad or worse than any yellow fever epidemic in the city. Sometimes this unfortunate city had the misfortune of having yellow fever and cholera at the same time. In the epidemic of 1832, for example, yellow fever antedated cholera by a few weeks and then it appeared. One-sixth of the population of the city died in the course of twelve days, a frightful mortality. It came back again in 1833 and within three weeks 1,800 people had died of it. "The towns and plantations of the lower parishes were the scene of frightful destruction." Covington, St. Martinsville, Franklin were almost abandoned. Near Franklin one plantation had 44 deaths in 48 hours. General Wade Hampton on his plantation lost 700 out of 1500 slaves. Sometimes the epidemics spread with frightful rapidity as in the epidemic of 1849 that was brought to the city by the Steamship Swanton, although Dr. Fenner in his Southern Medical Report for 1849 says that cholera was here before the arrival of that ship. The epidemic of 1873 was noteworthy because New Orleans was accused of letting cholera into the country. This was the last epidemic of any moment in this country or New Orleans. Bacteriologists in a short time discovered the cause of the disease with the natural corollary of how to prevent it.

Incidentally many of the data and bibliography concerning cholera in New Orleans were supplied to Chambers by Dr. Rudolph Matas.

There are some interesting sidelights on cholera and its relationship to New Orleans. Stone and Hunt, two of the really great physicians of New Orleans, came to this city as result very largely of cholera. Stone developed cholera after leaving New York. He landed in Charleston sick with the disease and was taken care of by Thomas Hunt, Stone was on his way to New Orleans at the time. As a result of the friendship that developed between the two men, Hunt threw his lot in with that of Stone and came to New Orleans. Here he quite promptly organized a medical school and Stone became a member of the staff until he retired in 1872. At the time of his death he was the most eminent physician and surgeon in the South and New Orleans' most loved medical teacher.

One of the interesting accounts of the book is the treatment that was carried out by some of the doctors. Dr. Cook, for example, advocated doses of calomel, one tablespoonful at a dose. In the case report of one patient, during the course of his sickness he had at least 17 tablespoonful of the drug, somewhat over a pound in the course of four days. Another interesting sidelight has to do with the possible means of transmission of the disease. It was thought to be due to bad air. Hence the development of the name "mal-aria" which later was used to describe the disease which was transmitted by mosquitoes.

Chambers' book may be read with pleasure and profit by the layman as well as the physician. It is really quite absorbing. Only one criticism might be made, namely that there has been too much detail incorporated concerning each and every individual epidemic. Historically it may be of value to know there were three cases in this town, and five in another town, twelve in another place, but it becomes just a little tiresome to have these minute details of small places and few cases recounted repeatedly. At times the author makes use of the same words too frequently. Thus, on page 262 in the course of six lines the word "complete" is used three times. These are minor criticisms and while slightly irritating do not in any way militate against the inherent excellent qualities of the book.

J. H. Musser, M. D.

The Heart in Pregnancy: By Julius Jensen. St. Louis, C. V. Mosby Co., 1938. Pp. 371. Price $5.50.

The author has brought together in a systematic fashion practically all the important data relating to heart disease in pregnancy. From an extensive bibliography which is appended, he has gathered the recorded facts, classified them and analyzed them critically.

The book starts with a section on the effects of pregnancy and the physiologic changes accompanying it upon the normal heart. Here such changes as the increase in body weight, the variations in vital capacity, and the effects of changes in metabolism are considered. Next are considered the means by which the heart meets the increased demands of pregnancy and the accompanying cardiac changes, including mechanismal disturbances.

Much space is devoted to rheumatic heart disease, the most important type of organic heart disease in pregnant women. This discussion covers all phases of the problem from incidence, diagnosis and prognosis to management of such patients, conduct of labor and problems of anesthesia. The non-rheumatic group is then considered under the headings of bacterial endocarditis, and syphilitic, congenital, degenerative, kyphoscoliotic and thyrotoxic heart disease.

In a field such as this, in which so many major problems are unsettled, one finds a host of complicating data. The author has, in general, exercised extreme care in pointing out the discrepancies and in bringing these points to light. Such a detailed analysis of world-wide data has also shown that many dogmas, for example, in prognostication, are without foundation. Such changes in attitude have resulted from the modern turn from concepts based solely upon anatomic changes to those emphasizing cardiac function as well.

The book represents an intelligent amassing of data in a field in which such a work is sorely needed.

W. A. Sodeman, M. D.

Practice of Orthopedic Surgery: By T. P. McMurray, M. B., M. Ch., F. R. C. S. (Edin.). Baltimore, William Wood & Co., 1937. Pp. 471. Price $5.00.

In 25 chapters this author presents a brief resume of the principles of orthopedic surgery and his experience with treatment. He does not include many of the discussions and methods included in other texts, but presents briefly and concisely his own views of the subject. The illustrations are well selected, original and excellent. The subject matter is brought up to date and obsolete procedures and methods of treatment have been omitted. The author's experience and standing warrant the somewhat didactic style of the book and, although it is rather abbreviated, it is useful both for reference and for a student textbook.

Guy A. Caldwell, M. D.

Crippled Children: Their Treatment and Orthopedic Nursing: By Earl D. McBride, B. S., M. D., F. A. C. S., in collaboration with Winifred R. Sink, A. B., R. N. St. Louis, C. V. Mosby Co., 1937. Pp. 379. Price $3.50.

The second edition of this textbook on orthopedic nursing, compiled with the assistance of Miss

Sink, is a great improvement on the first edition. The text has been amplified and clarified and the illustrations are much better. There are adequate descriptions of orthopedic equipment, braces, plaster work, traction apparatus and physical therapy measures in addition to the presentation of the common diseases and deformities treated in an orthopedic hospital service. The text is written in simple language easily comprehended by student nurses and lay workers.

This book is a valuable addition to any hospital library, an excellent textbook for nurses and a good reference work for social service and lay workers interested in the care of crippled children.

Guy A. Caldwell, M. D.

Diseases of Women: By Ten Teachers under the Direction of Clifford White, Edited by Sir Comyns Berkeley, Clifford White, Frank Cook. Baltimore, William Wood & Company, 1938. Pp. 492. Price 18 shillings.

An excellent volume of 472 pages covering every phase of gynecologic disorder. The subject matter is well arranged and presented in an authoritative manner. Whether it be the chapter on cervicitis, or that on tumors, or endocrine disorders, or upon any other subject, the conclusions drawn by the authors show the results of a wide clinical experience and a thorough knowledge of the literature.

The illustrations do not meet the standards of those usually found in textbooks of gynecology, but in spite of this the volume is a very valuable edition and worthy of being read by anyone who is engaged in treating the diseases of women.

Conrad G. Collins, M. D.

The International Medical Annual: Baltimore, William Wood and Company, 1938. Pp. 615. Price, $6.00.

The book is a review of the medical literature of the world of 1936 and the first part of 1937, being condensed into book form with only instructive articles being selected. This review of literature is done by thirty-five prominent English physicians, each reviewing the literature in his own field of medicine.

By reading through this book, one is able to find out what is going on and what is being done in the entire medical world: For instance, that in Leningrad, Russia, during February and March, 1936, there were approximately 500,000 cases of influenza, and that they tried to determine the etiology of this disease by human experimentation; also, that in China prostatic hypertrophy is very uncommon. Facts as these help one to know what is going on throughout the medical world, and not be confined to his own locality or country.

This book, as all books have, has strong and weak parts in it, but, taking it all in all, it is above the average review of literature.

Frank L. Ramsay, M. D.

A Synopsis of the Diagnosis of the Acute Surgical Diseases of the Abdomen: By John A. Hardy. St. Louis, C. V. Mosby Co., 1938. Pp. 345. Price, $4.50.

Using an extended synopsis form, the author of this small-sized volume presents, in unusual completeness, the diagnosis of those conditions which are ordinarily referred to as acute surgical diseases of the abdomen. He also considers certain other conditions for which early surgical intervention is desirable or which mimic the so-called acute surgical diseases of the abdomen. Although clinical study of the patient is emphasized, laboratory aids to diagnosis are discussed.

The author repeatedly indicates the value of studying any exudate, transudate, or other extravasated fluid which may be aspirated from the peritoneal cavity in obscure cases. It is surprising that repeated enemas are included among the methods of diagnostic study in suspected intestinal obstruction.

Repetition or cross-entry of a number of the signs, symptoms, or other findings which are scattered throughout the volume would increase the completeness of several sections of the book, and would enhance the value of the work for quick reference purposes.

Pen and ink line drawings illustrate some of the lesions and findings which are discussed in the text.

Ambrose Storck, M. D.

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THE POSSIBLE ROLE OF INTESTINAL TOXEMIA IN LIVER DAMAGE*

ALLAN EUSTIS, M. D.
NEW ORLEANS

For more than thirty-five years I have been particularly interested in the role of the liver in the metabolism of the body, as evidenced by many articles thereon.[1,2,3,4] With a few exceptions the internist and surgeon still pay scant attention to this important organ. Graham,[5] and earlier, Heyd,[6] and more recently Boyce,[7,8,9] with his admirable experimental as well as clinical observations, are among the notable exceptions. The frequency with which liver damage is encountered in routine autopsies is well exemplified by the following statistics from the pathologic records of Touro Infirmary for the years 1936 and 1937, available to me through the courtesy of John A. Lanford, pathologist of this institution and tabulated by his assistant, A. P. Kimball, both of whom deserve my thanks for this information.

TABLE 1
LIVER PATHOLOGY IN 185 AUTOPSIES
TOURO INFIRMARY, 1936

	No. of Cases	Per cent
Acute toxic hepatitis	39	20.7
Fatty degeneration	71	38.4
Cirrhosis of liver	13	7.0

TABLE 2
LIVER PATHOLOGY IN 188 AUTOPSIES
TOURO INFIRMARY, 1937

	No. of Cases	Per cent
Acute toxic hepatitis	42	22.3
Fatty degeneration	53	28.2
Cirrhosis of liver	18	9.0
Congestion of liver	99	52.6

These same records show a low incidence of gallbladder pathology in proportion to liver pathology—(see table 3), and one is at once impressed by the frequency of liver pathology in extra hepatic disease as cirrhosis was found in only seven per cent in 1936, with nine per cent in 1937. The frequency of congestion of the liver, 52.6 per cent in 1937 but not tabulated in 1936, adds additional evidence to the importance of considering the liver in treating any medical or surgical patient.

TABLE 3
GALLBLADDER PATHOLOGY IN 188 AUTOPSIES
TOURO INFIRMARY, 1937

	No. of Cases	Per cent
Cholelithiasis	13	6.9
Chronic cholecystitis	17	9.0
Gangrenous cholecystitis	1	0.53
Empyema of gallbladder	1	0.53
Hydrops of gallbladder	3	1.6

Consideration of the hepatic function is of equal importance to the surgeon and internist, and I agree heartily with Boyce when he states, "All candidates for any operation must be studied from the standpoint of hepatic function." In 1930 I[4] reviewed the more popular liver function tests used at that time, and the scope of this paper will not allow of repetition, but, since then two tests for liver function, the Taka-Ara test advocated by Heath[10] and others, and the hippuric acid test advocated by Quick[11] and used by Boyce[7,8,9] may be mentioned. The former requires 24 hours for a determination and the latter, as originally brought out by Delprat[12] and Whipple in 1921, requires extensive injury to the liver for an interference in the metabolism of benzoic acid to hippuric acid. For these reasons I have continued to use Ehrlich's aldehyde test as a routine on every specimen of urine irrespective of the disease being investigated. In a former article I[4] mentioned that from October 1911 to January 1, 1930, this test was performed in my office laboratory 19,385 times. Never has a strongly positive aldehyde test been found unless there was evidence of liver dysfunction either clinically, at operation, or at autopsy. It is present in significant quantities in only 6 per cent of my routine office examinations of urine; the simplicity of the test lends itself as a routine procedure in urine examinations, albumin and urobilinogen being tested for at the same time. The object of this paper is not to urge the use of Ehrlich's aldehyde test, but, to consider the function of the liver in every patient treated medically, and also those who are about to undergo surgical operations, choosing whichever test is preferred. None is perfect and several different tests may be required to give an adequate knowledge of the pathology present.

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*Presented before the meeting of the Louisiana State Medical Society, May 3, 1938, at New Orleans.

Piersol and Rothman[13] in 1928 concluded that, "Of all liver function tests thus far devised, those of greatest clinical value and general usefulness (1) estimation of urobilinogen; (2) icterus index; (3) retention of bromsulphalein, the urobilinogen test is the most delicate single test for liver dysfunction." This has been my experience, as well as that of Wallace and Diamond,[14] while its use has been advocated by Berghausen,[15] Chase,[16] and quite recently by White.[17] The infrequent use of this simple test is probably due to the opinion of Wilbur and Addis[18] that its clinical significance is limited as well as a like opinion evidently held by Rowntree[19] and his co-workers in their experiments on liver function. But, their experience with this test was quite limited, and certainly not comparable with mine. For a proper interpretation of the test a thorough understanding of the original experiments of Bauer[20] must be had, as a negative test in the presence of jaundice is often as significant as a positive test. It must be remembered that to obtain a positive test for urobilinogen in the urine, bile, or more specifically, bilirubin must enter the intestines where it is reduced to urobilinogen, which in turn is absorbed by the portal circulation. In deficient liver function this absorbed urobilinogen enters the general circulation and appears in the urine.

In 1924 I[21] reported a case of cirrhosis of the liver definitely influenced symptomatically by the absorption of intestinal toxins as evidenced by the indican test. Again in 1930 I[4] attempted to interest the profession in this subject and reported another case of cirrhosis of the liver, illustrated by a chart which showed synchronous elevations and depressions in the curves of the aldehyde and indican tests.

Four other cases are reported herewith, illustrating the effect of the absorption of indol and other toxins from the intestinal canal upon the liver function as indicated by Ehrlich's aldehyde test for urobilinogen.

CASE REPORTS

Case 1. Mrs. J. H. P., a white female, aged 53, was first operated upon in 1920. A chronic appendix was removed and a thickened gallbladder drained only, as the pancreas was enlarged and harder than normal. In 1927 she developed jaundice, with temperature and marked tenderness over the region of the gallbladder. After a stay of several days in the Baptist Hospital, during which time she was given an initial purgative of calomel, phenolphthalein and rhubarb, followed by daily morning doses of one teaspoonful of magnesium sulfate, and kept on a low protein diet, she was again operated upon under ether anesthesia by the same surgeon. On opening the abdomen a mass of adhesions was encountered and it was with great difficulty and considerable hemorrhage from separating the adhesions, that the remnant of the gallbladder was finally located as a mere stump. A tube was stitched in this stump and drainage maintained for several weeks. In 1929 she again developed jaundice, and after considerable manipulation a tube was inserted in the common duct. At this time the pancreas gave all the indications of being malignant, but the lymphatic glands were not enlarged. Drainage was maintained for several months. Prior to both of these operations the intestinal toxemia was overcome and she was operated upon with an empty alimentary canal. There was no tympanites following either operation and reference to Figure 1 will demonstrate that, in

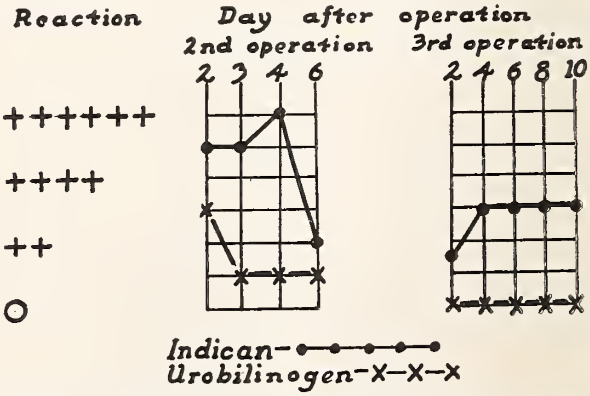

Fig. 1. Indican and urobilinogen excretion, Case 1, following cholecystostomy under ether anesthesia.

spite of the manipulations necessary in each operation, the patient had very little interference with her liver function, and she is living today, in good health at the age of 71.

Case 2. A white male, aged 60, was operated on in 1935 for cholecystectomy and appendectomy. At operation well advanced cirrhosis of the liver was found. He has been under my observation for 20 years, and at the time of operation he had arteriosclerotic heart disease. Reference to Figure 2 demonstrates that while there was evidence of considerable dysfunction of the liver, the indican reaction was low on account of preoperative measures to combat his tendency to intestinal toxemia, and also due, I feel sure, to an enema on the fourth operative day followed by daily doses of mineral oil thereafter, while he subsisted on a low protein diet.

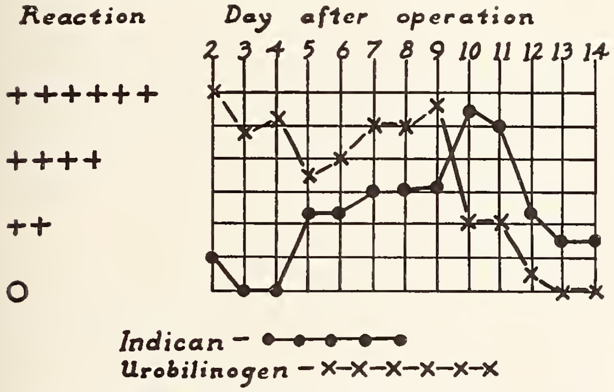

Fig. 2. Indican and urobilinogen excretion, Case 2, following cholecystectomy under ethylene anesthesia.

Case 3. T. J. B., a white male, aged 35, had an appendectomy and pyloroplasty. No preoperative treatment was instituted and he was greatly distended with a mounting aldehyde reaction until his bowels were finally moved by an enema, when the distention was relieved and the aldehyde and indican reactions both subsided.

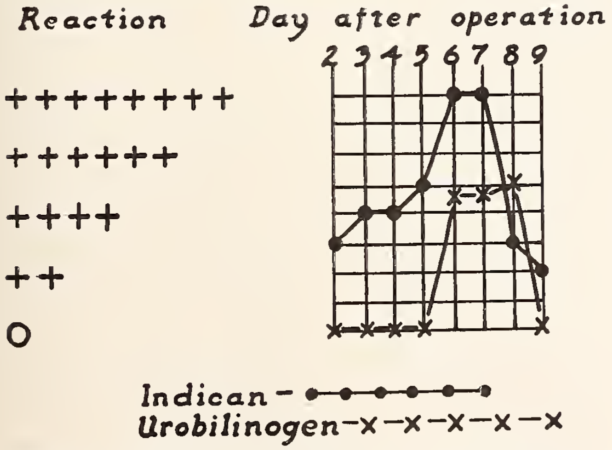

Fig. 3. Indican and urobilinogen excretion, Case 3, following appendectomy and pyloroplasty under cyclopropane anesthesia.

Case 4. A white male, aged 61, has been under my observation for 17 years. With no preoperative treatments to his alimentary canal and being on full diet up to the night before, a double herniotomy was recently performed. Therefore, he was operated upon with his intestines filled with fecal matter, as evidenced by the passage of a large stool through, and on the sides of the rectal tube, when his bowels finally moved from intravenous infusion of hypertonic sodium chloride and physostigmine. The synchronous rise and fall in the curves of indican excretion and urobilinogen are well exemplified in this case. It might be of interest to note that during the period when his indican and aldehyde tests were at their height there was evidence of marked inflammatory reaction in his kidneys which disappeared when these tests came down. He was on the verge of so-called "liver death."

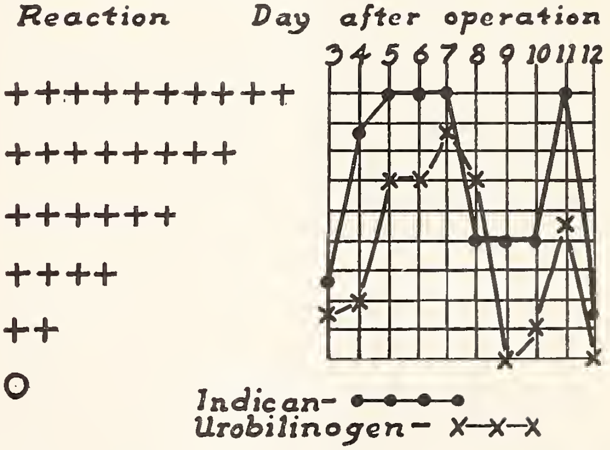

Fig. 4. Indican and urobilinogen excretion, Case 4, following herniotomy under cyclopropane anesthesia.

DISCUSSION

These four cases are typical of my observations during many years with patients operated upon by numerous different surgeons, which lead me to the conclusion that if patients are properly prepared for operation, there will be no question of treatment of ileus, just as I am not interested in the treatment of tympanites in a typhoid fever patient. Both conditions are the result of the putrefaction of protein food, and all surgeons are careful to abstain from giving food following laparotomies. It therefore seems logical to me to empty the intestinal canal before operation and to allow food, the remnants of which cannot be removed, to be of the nonputrefactive type. Tympanites is caused from putrefaction not from fermentation. Morton[22] has demonstrated that whereas the normal intra-intestinal pressure varies from 2 to 4 cm. of

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Charts were prepared by Miss Helena Lewis.

water, after obstruction had been present for 24 hours pressure within the gut is 4.5 to 5 cm. of water. This is due, in my opinion, to the putrefaction of protein material from the growth of anerobic bacteria.

Referring to the toxemia resulting from intestinal obstruction, Ochsner[23], who has done revolutionary experimental work on ileus, states, "There exists some additional factor which is undoubtedly a toxemia, the toxin being derived from the lumen of the obstructed gut, the toxins in all probability the result of an incomplete cleavage of a protein molecule." Schofield[24] found that the blood obtained from the portal veins of animals dying from intestinal obstruction was lethal to mice. These experiments, as well as those of Boyce,[9] certainly point strongly to the fact that a toxin, or toxins are generated by the incomplete cleavage of proteins in the intestinal canal.

In a study of 715 cases of acute intestinal obstruction from the records of Charity Hospital, Boyce and McFetridge[25] found nine cases, all established by autopsy, which proved that death was due to an overwhelming toxemia with necrosis of the liver. Cole and Elman[26] produced necrotic changes in the liver in experimental intestinal obstruction, while Boyce and McFetridge[9] further demonstrated that the liver of patients dying from so-called liver death contained certain toxic materials. Is it not logical to assume that these livers were filled with toxins absorbed from the intestinal canal, and not detoxicated on account of the failure of liver function? I have observed many cases of so-called "liver deaths" in various surgeons' hands, and in every one the classical symptoms of acute intestinal toxemia were evident. Carphology, noted by Boyce as one of the symptoms of some of these cases, is one of the predominant symptoms of most cases of typhoid fever, but, I can state definitely, if the tendency to intestinal putrefaction is overcome in a typhoid fever case, by diet or other means, there will be neither carphology nor tympanites.

CONCLUSIONS

It is safe to assume that the removal of protein material from the lumen of the intestinal canal is indicated in all conditions in which the urine shows an excess of indican. Further clinical observation and experimental data are necessary to prove this hypothesis, but, it is undoubtedly unscientific and biased to dismiss the question of the role of intestinal toxins in liver pathology by refusing even to examine the urine for indican, as has been the rule with most of those whom I have tried to interest in the subject.

I have asked Dr. Boyce to open the discussion of this paper, believing as I do that he has a thorough understanding of the dangers of liver dysfunction, and because of his scientific training will welcome any possible explanation of the phenomena observed.

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DISCUSSION

Dr. Frederick F. Boyce (New Orleans): It is only within very recent years that the liver has begun to receive the attention it deserves as a factor in surgery and that the syndrome of "liver death" has been definitely recognized and studied. We now believe that the majority of patients who die from hyperthyroidism or thyroid storm after surgery actually die from liver pathology. We now believe that in biliary tract surgery liver deaths occupy an enormously important place. Indeed, many surgeons believe, as we do, that they rank second only to peritonitis. There is still, however, no general recognition of the important role played by the liver in all surgery.

For this reason Dr. Eustis' paper is timely. It is also timely because of the interest manifested in recent years in the subject of intestinal toxemia. The exact origin of this toxemia is still obscure. It is one of the most debated points in the discussion of intestinal obstruction. Some authorities believe that it is the result of vascular changes in the wall of the intestinal tract, others that it is the result of stagnation and subsequent putrefaction of the intestinal contents. The nature of the toxemia is still one of the unsolved mysteries of medicine, but of its existence and of its fatal consequences there can be no possible doubt. Whatever the origin, it is quite clear that the absorption of toxins from the intestinal tract results in changes in the liver, varying from mild degenerative changes to actual necrosis of the liver cells. There is no doubt that many patients with intestinal obstruction die liver deaths; exactly as many patients with biliary tract disease and toxic thyroid disease die such deaths.

Some of these tragedies undoubtedly can be explained by pre-existing liver damage. For the last two years we have been using the oral Quick hippuric acid test of liver function, and recently we have been using the intravenous test also. The test is simple and we believe it is accurate; certainly our results with it have been both suggestive and helpful. In our studies we have found a rather surprising number of presumably normal patients who exhibited a depressed liver function on repeated tests. I might say that we never accept a single reading as accurate. Because these patients are presumably normal, they are not usually given any special preparation. But our studies with the Quick test have proved very clearly that there is some depression of liver function in the hours and days immediately after operation. Anesthesia plays some part. We found in a large number of cases that when ethylene anesthesia was used there was an average drop of 21 per cent on the first day after operation, which increased to 35 per cent when ether was used and to 50 per cent when spinal analgesia was used. Merely opening the abdomen, with resulting loss of visceral heat, probably plays some part in this drop, and intestinal toxemia undoubtedly shares in it. Toxins which are brought to the liver by way of the portal vein originate in the gastrointestinal tract, and a liver depressed before operation, with its function still further depressed by the effects of anesthesia and loss of heat, may fail entirely if the dose of toxins is unduly large.

Dr. Eustis outlined as part of the preoperative preparation of his patients the use of mild purgation. I should rather hesitate to employ that method, and I am inclined to think that most surgeons would agree with me. I should be afraid that patients so prepared would be less fitted to withstand toxemia, because purgation produces what amounts to a diarrhea, and it is known that patients with diarrhea always show fatty infiltrative changes in the liver. Patients with a decreased liver function before operation might be adversely and perhaps fatally affected by such a plan. If it is employed, it should be discontinued several days before operation, so that the proper water balance of the body could be restored.

To combat the drop in liver function after operation we have been using two methods of preparation, glucose by mouth, as emphasized by Althausen, and decholin, or dehydrocholic acid. The use of these simple methods not only maintains liver function at the normal level but actually improves it, and convalescence is usually very smooth.

Dr. Joseph Felsen (New York): I was very much interested in Dr. Eustis' clinical observations which I think are very valuable. With regard to the actual scientific estimation of liver function tests, I am sure we all agree that inasmuch as the liver has many functions, some of which we know, many which we do not know, that any one test or combination of tests furnishes a rather incomplete knowledge of liver function. If we depend solely upon the laboratory tests and fail to note or properly interpret the clinical signs, we are liable to be misled.

I recall in the few minutes I have had to think over the subject, a study of five years by one of the members of my staff, Dr. Clements, who has correlated the results of many tests, using practically every test available. Quite often, we were struck with the paradoxical relationship between laboratory tests and necropsy findings. So far as our experience goes during the last five years, I do not think, within the limitations of our study, that liver function tests are very conclusive. I would much rather rely upon the clinical data in a given case than upon any functional test.

Dr. P. B. Salatich (New Orleans): I am glad to hear Dr. Eustis stress the importance of testing out the liver before operating. I have been talking about that and I have been doing it myself for years. Now, it is surprising how often you find a damaged liver when you are forced to operate. Often you do not have time to prepare the patient and get the liver back into normal condition, but as a rule, I think we ought always to know about the condition of our patient's liver before opening the abdomen; that is especially important in gallbladder surgery. You do not have to increase the time of the patient in the hospital. The way I do is to have the patient come in the night before operation at nine o'clock and have a liver function test made, and that patient does not have to stay one day longer in the hospital.

What are you to do if you have a damaged liver in gallbladder cases and you have to operate without preparation? I have had good results in these cases, especially gallbladder surgery, by giving 10 minims of adrenalin three times a day. If you operate on a gallbladder patient with a bad liver, and the liver is not functioning properly, the patient will have no disturbance from adrenalin, but after a day or two when the liver function improves there will be a marked reaction.

It is all right to give glucose, but if the liver is not functioning properly, you will not get the effects of glucose as you would if the liver were functioning in the proper way.

Dr. Allan Eustis (In conclusion): Regarding the vascular disturbances Dr. Boyce spoke of, I mentioned in my paper the increased pressure on the lumen of the intestine. It has been shown that this increased pressure does interfere with the vascular supply and experimental work may prove that this toxin has a great deal to do with it.

Regarding purgation, I do not advocate purgation. I advocate overcoming the toxemia by medical means. When you operate on these patients, do not let them eat proteins. Let them eat food that is not going to putrefy, because it has been shown that the flora of the intestinal canal can be changed by dietary means alone. So, if we wish to overcome that load on the liver which occurs in all operative procedures on the gallbladder, then let us recall the work Whipple and Sperry and Opie and Reed carried on independently of one another. Both produced focal necrosis in the liver by chloroform in rats. One set of rats was fed on proteins, another on fats, and the third on carbohydrates. And in both series of experiments, the rats fed on proteins all died and showed typical focal necrosis. Of those fed on fats, 50 per cent died; of those fed on carbohydrates, none died, and at the postmortems no evience of damage to the liver could be found. There is no question but that carbohydrates are indicated in liver damage. They relieve the strain on the liver, but surgeons will relieve the load on the liver by not putting putrefying material in the intestinal canal. Until surgeons consider the influence of intestinal toxins, I do not believe they will solve "liver death."

TRAUMATIC STRICTURE OF THE CERVIX*

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and
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The clinical importance of traumatic stricture of the cervix has not been fully realized, and, with the exception of a few writers who are keenly conscious of this type of pathology, scant attention has been paid to the matter. The textbooks contain only a brief reference to cervical stenosis as a probable cause of sterility, of pyometra, or as a factor in dystocia; they list the physiologic causes of stenosis, such as developmental defects, infection and the atrophy of the menopause, but, very little is written of cervical stricture as the result of gynecologic interference.

In 1920, because of his interest in the pathology of chronic leukorrhea, Curtis[1] became gradually impressed with a realization of the clinical importance of cervical stricture. He and his associates[2] taught themselves to look for obstructions, and to explore the cervical canal with gentleness; and, if hysterectomy was inevitable, they attempted to preserve the cervical canal uninvaded and intact, in order that it might be studied in an unaltered condition following removal. As a result of these studies, they concluded that a large number of cervical strictures have been overlooked by both gynecologists and pathologists, and that their role in the etiology of pelvic disturbances is not fully appreciated. Holden[3] agrees that this condition has frequently escaped notice due to the methods of examining uteri in the laboratory; the condition would be found more often if the uteri were bisected longitudinally, as suggested by Curtis. He believes that in moderate strictures, the condition is also very often not recognized because the dilatation of the cervix, to treat the supposed pathology in the body of the uterus, cures the stricture.

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Stimulated by the work of Curtis, we became "stricture conscious," and began to search for these obstructive lesions in all our postoperative cases, and, also in those patients in whom the usual pelvic examination failed to disclose any evidence of the etiologic factor, or factors, responsible for the patient's complaint. We were rewarded by finding a number of cases presenting mild cervical strictures, which in themselves were responsible for sterility, dysmenorrhea, or leukorrhea. A review of operative records on cases seen in our service at Touro Infirmary and at Charity Hospital disclosed a total of 55 cases of traumatic stricture of the cervix that required hospitalization, an anesthetic, and, not infrequently, a major operation for the relief of symptoms due to this lesion. It is only with these cases that this report is primarily concerned. We have not included an equal number with cervical stricture severe enough to demand attention, but who did not require hospitalization because the distorted cervical canal was more elastic, and we were able to institute proper uterine drainage by passing graduated dilators into the canal at frequent intervals in the office, until the canal remained patent.

ETIOLOGY

Traumatic stricture of the cervix may follow simple dilatation and curettage, cauterization, conization, trachelorrhaphy, the Sturmdorf operation, low amputation, high amputation, the application of radium, or forceps delivery. Any one of these procedures, no matter how skillfully performed, carries with it the possibility of future stricture formation. In general, it could be stated that the greater the amount of cervical tissue traumatized or removed, the greater the danger of stricture. In our series, cauterization accounted for 24 cases, a fact which, at first glance, would seem to refute the foregoing statement. However, when it is realized that the vast majority of cervices that receive treatment are cauterized rather than operated upon, it is quite evident that the absolute incidence of stricture is in reality no higher, and, in fact, is lower, than that following operative procedures. The large number of strictures following cauterization does prove, however, that the man who wields the cautery, in his determined effort to rid the cervix of infection, forgets the possibility of burning too much tissue, and thus produces a condition which ultimately is worse than the original pathologic process. The same may be said of conization, which has been popularized in recent years as the treatment par excellence of cervical disease. It is apropos to state at this point that the most severe cases of cervical stricture encountered by us have been those which followed conization.

With a view of evaluating the different methods of attacking cervical disease by surgery, Bullard[4] analyzed the results of 261 operations. His conclusions are best shown by the following table:

TABLE 1

Type of operation	No. of cases treated	No. of cases stenosis	Per cent	Impassable by probe	Partial stenosis	Cure of leukorrhea
High amputation	59	32	54.2	23	9	100.0%
Low amputation	99	18	18.0	7	11	87.8%
Trachelorrhaphy	50	6	12.0	2	4	74.0%
Sturmdorf operation	53	1	1.8	0	1	92.6%

He is, therefore, of the opinion that for the cure of leukorrhea, high amputation is perfect, the Sturmdorf operation excellent, low amputation very good, and trachelorrhaphy disappointing. But the degree of cervical stenosis must be taken into consideration in arriving at a true evaluation of each method. High amputation, which produced the highest cure of leukorrhea, likewise produced the highest percentage of stenosis, while the Sturmdorf operation showed a good percentage of cures (92.6 per cent) with only one case of stenosis.

In our series of 55 cases, the etiologic factor was:

TABLE 2
ETIOLOGY

Cauterization	24
Conization	6
Schroeder amputation of cervix	6
Sturmdorf amputation of cervix	5
Trachelorrhaphy	3
High amputation	3
Plastic on cervix (type of operation not stated)	4
Radium	3
Forceps	1
Total number of cases	55

PATHOLOGY

There are, of course, many types of stricture of the cervix for which the gynecologist is not culpable: the developmental, the inflammatory, the postpartal, the neoplastic, and the postmenopausal. But, for those strictures which are the direct result of operations upon the cervix, or which are the outcome of instrumentation, the gynecologist must take the blame. Such strictures are traumatic in origin, and may be due either to occlusion or to agglutination and healing together of denuded surfaces, as is seen following the Schroeder, the Sturmdorf, high amputation, or trachelorrhaphy procedures; or, they may be due to a generalized cicatricial contraction, as is seen following cauterization, conization, or the application of radium. The stricture may appear either as a thin veil-like, fibrous band of tissue, which either wholly occludes or markedly narrows the caliber of the external os; or, it may be present as a generalized tortuous fibrous constriction of the entire length of the cervical canal. In our series, 41 cases were of the incomplete variety, and 14 were of the complete type. In the latter type of stricture, the sequelae and symptoms are more marked, for, in the 14 cases of complete occlusion, there were two associated with pyometra, two with hematometra, and two with endometriosis. In treatment of these 55 cases of cervical stricture, it was necessary to perform twelve abdominal hysterectomies, and, in these twelve abdomens, endometriosis was found in three. This is more than a coincidence, and conclusively shows that wherever there is obstruction to the normal menstrual flow, there is a strong possibility of a retrograde emptying of the uterus through the tubes, and the consequent development of endometriosis. Curtis and other authorities believe that any impairment to free emptying of the uterus, either of menstrual blood or of other secretions, is an etiologic factor in the production of carcinoma of the fundus. We were unable to find any evidence of fundal carcinoma in any of our cases, but readily subscribe to the view that in uteri with poor drainage, the incidence of fundal carcinoma will be higher than in uteri with free drainage.

TABLE 3
PATHOLOGY

Incomplete stenosis	41	(1 case of endometriosis)
Complete stenosis	14	(2 cases of endometriosis) (2 cases of hematometra) (2 cases of pyometra)
Total number of cases	55	

TABLE 4
LOCATION OF STRICTURE

External os	43
Entire length of cervix	10
Internal os	2
Total number of cases	55

SYMPTOMS AND SIGNS

The symptoms produced by cervical stricture are varied. There may be: dysmenorrhea, leukorrhea, a persistent bloody discharge, oligomenorrhea, menorrhagia, amenorrhea, sterility, low abdominal pain, backache, vesical tenesmus, pruritus, or any combination of these symptoms. In our series, dysmenorrhea was the most prominent symptom, and was of the obstructive type in nearly every case, accompanied by cramping pain which began one or two days before the onset of the period and lasted to the second or third day. Amenorrhea was the most ominous symptom, for, in the majority of these cases, the pathology found as the result of the stricture required that hysterectomy be performed.

Symptoms develop as early as two months following operative procedures upon the cervix, or as late as five years. They are usually insidious and mild in onset, but later become severe enough to cause marked disability and discomfort at the menstrual period. Bimanual and speculum examination usually reveals no evidence of pathology unless a complete stricture is present, in which case the absence of the cervical os and enlargement of the uterus, due to retention of blood and/or pus, give an index of the true nature of the pathology. As a rule, however, it is only when an attempt is made to pass a sound into the body of the uterus that the true nature of the pathology is recognized. A uterine sound cannot be inserted, and only the smallest probe can be passed with difficulty, and frequently, upon its withdrawal, a small amount of tarry blood escapes from the uterus. Curtis believes that irritation from these retained secretions may be a factor in stimulating the metaplasia, which he has so often observed near the internal os, and, in that way, may be an etiologic factor in the production of cervical carcinoma. No gynecologic examination is complete in those patients who give a history of previous operation upon the cervix, or of conization, cauterization, or the application of radium, without the passage of a sound to determine if cervical stricture exists.

TABLE 5
SYMPTOMS

Dysmenorrhea	20
Leukorrhea	16
Abdominal pain	12
Backache	10
Menorrhagia	9
Amenorrhea (2 to 6 mos. duration)	9
Bloody discharge	7
Sterility	5
Oligomenorrhea	5
Pruritus	2
Pain in bladder	2

TREATMENT

The treatment depends upon the type of stricture found, upon the age and parity of the patient, and upon the associated pathology. In general, our plan of treatment has been a dilatation of the cervix, with or without the insertion of a stem pessary, in cases of incomplete stricture, as well as in cases of complete stricture where the occlusion was due to a thin membrane encountered at or near the external os. For the more severe type of case with a general constriction of the entire cervical canal, or with complete occlusion due to involvement of most of the cervical canal, hysterectomy has been performed, either by the abdominal or vaginal method.

TABLE 6
OPERATIVE PROCEDURES

Dilatation	27
Dilatation and stem pessary	8
Hysterectomy (abdominal)	12
Hysterectomy (vaginal)	7
Amputation of cervical stump	1
Total number of cases	55

DISCUSSION

The consideration of the devastating effects of ill-performed and unwise treatment of cervical disease cannot be set aside lightly. Cauterization in the office, and even cauterization under anesthesia, are sometimes done in too haphazard a fashion, with very little knowledge of the degree of heat applied and still less knowledge of the extent to which tissues are being destroyed. The same may be said of conization in which it is equally difficult to gauge accurately the degree of coagulum produced. Kimble^5 points out that areas much deeper and wider than those in the path of the cautery are destroyed by the absorption of toxins from the burned area.

Ende^6 calls attention to the fact that there is no reliable way of estimating the actual heat of the cautery, because the color of the cautery tip depends upon the illumination of the room, and quenching of the cautery by cervical mucus creates inequalities in heat along the hot surface, with the result that there is an overdose at the external os and very little destruction about the internal os. He believes that the cautery user who reports many cures without a great number of strictures is an exceptional guesser.

We have always had serious misgivings as to the wisdom of denuding epithelial surfaces high up in the cervix; to cauterize the vaginal surface of the cervix is a less serious matter. A good rule to adopt would be to treat the cervix with at least as much respect as we would treat the mucous membranes of the nasal and aural canals, and cauterize just enough to destroy the diseased area, never cauterizing too deeply or too frequently.

We have had very little experience with conization, but we have seen a number of cases of stricture following its use elsewhere, and can state that these strictures were more extensive and more marked than those seen following other methods of treatment. It is our firm belief that the indiscriminate use of this type of therapy applied to all types of cervical disease will in the end show a much higher incidence of stricture than will either cauterization or surgery.

In the use of surgery, only by careful hemostasis and approximation of flaps can we obtain better healing. And better healing means less fibrosis, less agglutination of flaps, and a lessened tendency to stricture formation. One of us (H. E. M.) for the past year has made it a practice to suture a small rubber catheter into the reconstructed cervical canal, as a prophylactic measure against the agglutination of one flap to the other, and is enthusiastic about its results.

We have made it routine in the last year, irrespective of how confident we were of our results, or how pleased we had been with the technic, to pass a probe into the cervical canal six to eight weeks following treatment of the diseased cervix, in an effort to break up any small, flimsy synechiae that might be present; for, if allowed to remain, they would become markedly fibrosed, and in that manner produce cervical stricture.

CONCLUSIONS

1. The clinical importance of cervical stricture has not been fully realized.

2. Cervical strictures produce sequelae which are worse than the condition for which the patient originally received treatment, and may result from any type of treatment for cervical disease.

3. By prophylactic measures, a number of these strictures can be prevented, especially if a sound or a small dilator is introduced into the cervix at six and twelve weeks postoperatively.

4. Fifty-five cases of traumatic cervical stricture have been analyzed and the result of the study presented. The high incidence of endometriosis encountered is more than coincidental.

5. No gynecologic examination is complete, especially in a patient who has had any type of treatment to the cervix, without the passage of a sound to determine the possibility of a stricture being present.

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DISCUSSION

Dr. E. Perry Thomas (New Orleans): Almost eighty years ago, Marion Sims first called attention to the importance of strictures of the cervix when he made his famous statement that without obstruction there was no dysmenorrhea. This statement aroused the attention of the medical profession at the time, but once it was proved that dysmenorrhea was not primarily due to this factor, cervical stenosis was promptly forgotten.

Some twenty years ago, Dr. Arthur Curtis became interested in obstructive lesions of the cervical canal from his investigations of the treatment of chronic cervicitis. Becoming dissatisfied with the results of operative therapy, he experimented with radium as a treatment for chronically inflamed cervices. In all of his cases, after the use of radium, the inflammatory changes subsided, the hypertrophy consequent to the disease disappeared, and the cervix assumed a normal size, shape, consistency, and color. He was enthusiastic about his results, and radium bade fair to replace all other methods in the treatment of chronic cervicitis. Repeated examinations, however, over a period of many months revealed that all of these cervices, treated with radium, presented a marked obstruction of the cervical canal. Although they looked healthy in appearance, a sound could not be passed through the cervical canal and the patients developed symptoms from this obstruction of the cervix which were far worse than the discharge and backache resulting from cervicitis. Interest in the study of cervical stenosis properly dates from Dr. Curtis's experience.

The symptoms produced by obstructive lesions of the cervix are numerous and varied in character, as is shown by the present study. Local symptoms, directly referable to the cervix or the uterus, are the most common. Leukorrhea and backache are usual and persist despite all attempts at local treatment. The discharge, although small in amount, is usually bloody and annoying. Dysmenorrhea is the next most common symptom and occasionally becomes progressively severe in the same manner as that produced by endometriosis. Indeed, it is not unusual to find endometriosis associated with cervical stenosis. Obstructions of the cervical canal favor a retrograde flow of menstrual blood and act as contributory factors in the etiology of endometriosis.

While it is true that local symptoms are most prominent, it should be remembered that a pyometra resulting from stenosis of the cervix may act as a focus of infection and may be responsible for varied systemic manifestations elsewhere in the body. A case illustrative of this point was seen at the Hutchinson Memorial Clinic. The patient was suspected by the internist of having tuberculosis because of long-continued afternoon fever and loss of weight. Clinical examination of the chest, supplemented by the x-ray and by tuberculin tests, was negative, and the patient was referred from one clinic to another in an attempt to find a focus of infection. Gynecologic examination revealed a stenosis of the cervix which had resulted from a previous Sturmdorf amputation. The obstructive lesion was dilated and the patient's symptoms were promptly relieved. This case is not unusual for a pyometra can not infrequently be found responsible for arthritic symptoms, for urinary frequency and burning, and for many vague symptoms which yield to no other measure than direct relief of the stenosis.

Pelvic examination upon patients suffering from an obstructive lesion of the cervix always reveals a uterus which is very slightly enlarged and exquisitely tender. The uterine enlargement is a variable feature and is directly dependent upon the extent of obstruction. Tenderness of the uterus is always present. The passage of a uterine sound should be routine in gynecologic examination and will always reveal the degree of stenosis.

The treatment of cervical stricture will vary with the extent of obstruction. The milder cases will frequently yield to office dilatation with Hegar sounds. When the obstruction is more resistant, and occasionally in mild cases which are not relieved by dilatation, the insertion of a glass stem pessary is a necessary procedure. Not infrequently a total hysterectomy is the only procedure which will afford complete relief.

The striking point in considering cervical stenosis is that, unlike most injuries and diseases, the condition is caused by the physician himself. It results most commonly from improper use of the cautery or from improperly performed plastic operations upon the cervix. The recent introduction of the electrosurgical unit with a technic for conization has accounted for a large number of stenoses of the cervical canal. The cautery is used too frequently or too extensively and the cicatrization produced in the process of healing results in a rigid, unyielding, strictured cervical canal. Conization is followed by a cicatrization which is usually greater than that resulting from the use of the cautery and the consequent stenosis is usually more extensive. In operative procedures, too little attention is paid to providing an adequately reconstructed cervical canal, and flaps, fashioned either too large or too small to suit their purpose, are incorrectly approximated.

This paper has been a most interesting one and will, I hope, bring to the attention of the general practitioner, the general surgeon, and the gynecologist, the fact that stenosis of the cervix is a possible resultant of any form of therapy used in the treatment of chronic cervicitis, that cervical stenosis results from the physician's own negligence in regard to the etiologic factors mentioned above, and that it remains undiagnosed because of the physician's own carelessness in a failure to search for it.

Dr. E. L. King (New Orleans): There is one point I want to mention regarding these operations on the cervix, that has not been mentioned by the authors. That is, the occurrence of such a tight stricture or block of the cervix that we are called upon to do a cesarean section in case of pregnancy. I have had several of these cases and have found that that is the only way out.

Another thing I wish to call to the attention of the members here is one case of death which came to my notice following use of the cautery on the cervix, in the office, six weeks after delivery. This was not my patient. I understand that the cervix was cauterized in the office and the patient developed peritonitis and died.

I would like to ask the authors if they can tell us what to do and how to do it, in cases of leukorrhea when there is a lacerated and everted cervix; and what to do with leukorrhea in the purely chronic diseases of the cervix. If anyone can answer the question as to what to do and how to cure these patients and get them out of this difficulty, I think it would be greatly appreciated by all.

Dr. Conrad G. Collins (New Orleans): Dr. Thomas, in his discussion, emphasized the fact that Dr. Curtis observed, following use of radium, a number of cases of stricture, and I wish to state that we have seen, during the past year, four or five cases of carcinoma of the fundus following the use of radium twenty-two years ago. Too much radium is being used in the treatment of benign bleeding at the menopause rather than a total or subtotal hysterectomy.

Dr. O. C. Rigby (Shreveport): It has been my opinion for a long time that stricture of the cervix is the most overlooked condition that we run into. It has been my observation, and I notice it is the teaching of Curtis and others, that in senile vaginitis, stricture of the cervix is the disease behind it all. You see a woman going on without any trouble whatsoever, but, when she passes the menopause, she will have senile vaginitis and leukorrhea, and you can just put it down that the retained secretion has burst through the strictured cervix.

I have seen one case where radium was used in carcinoma of the cervix and no further attention was given the patient until a year later, when there was a mass due to retained secretions, due to stricture of the cervix.

I thank Dr. Miller and Dr. Collins for bringing this subject to our attention, and I think gynecologists should spread this news to the profession in order that so many women, who later will develop stricture of the cervix, may be protected.

Dr. Hilliard E. Miller (In conclusion): I had no intention of condemning the cautery wholesale, in so far as its value for the treatment of lacerations, erosions and mild cervicitis is concerned. The purpose of this paper was to bring to your attention the problems which might result from extensive use of cauteries on the cervix, and, particularly, the disturbances which may follow conization. We still believe that the cautery has usefulness and we use it very frequently. My own personal feeling is that its use should be restricted absolutely to the destruction of the diseased area, and that a cautery should not be used on the epithelial or deep structure and canal. I believe this group just reported has brought to our attention the absolute necessity of staying within strict limits in using the cautery in cervical diseases.

Dr. King asked a question as to the treatment of leukorrhea that occurs from a lacerated cervix, following confinement cases. One should routinely destroy the erosion but never make an attempt to go into the cervical canal. I prefer surgery to the use of the cautery or conization outfit due to the large number of strictures seen following extensive cauterization of the cervix.

We did not bring senile vaginitis into the picture as strictures associated with this entity are of a different type of stricture than we wished to present at this time. Those cases analyzed here have been purely of a traumatic nature. I do not say definitely that all were due to trauma, but primary trauma and secondary infection caused most strictures.

I agree with Dr. Rigby that these conditions are commonly overlooked. I have come to make it a routine in my office practice to slip a sound in the cervix on the first examination. This can do no harm. If the sound slips into the cervix we know it is free of infection or trouble, particularly if there are no inflammatory lesions in the pelvis.

I have seen several cases where strictures had to do with dissemination of focus of infection, particularly a case which Dr. Hume referred to me for check-up as a possible focus of infection in the pelvis. The uterus was removed and a tablespoonful of pus was found behind the stricture. The arthritic symptoms which had been present cleared up and three months later instead of being a semi-invalid, the woman was well from arthritis. So, the cervix as a focus of infection must not be forgotten.

RUPTURED PYOSALPINX*

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NEW ORLEANS

Ruptured pyosalpinx has been known from the time Lawson Tait made his observations in 1868. Since that time numerous references to this condition have appeared in the literature. Bonney,[1] in 1909, had collected 31 authentic cases, and Brickner[2] had reviewed 91 cases up to 1912. By the year 1932, approximately 165 cases had been reported.

Considering the numerous cases diagnosed as salpingitis and tubo-ovarian abscess, one is astonished at the relatively small number of these which terminate in rupture. In our series of 463 cases of tubo-ovarian abscesses, only two were ruptured pyosalpinx.

MECHANISM OF RUPTURE

The mechanism of rupture is diverse. Huet[3] distinguished two types: rupture and perforation. The rupture is commonly caused by trauma to a relatively cold pyosalpinx, and perforation during the course of active inflammation with ulceration of the tubal wall. Rupture from trauma may follow comparatively mild effort on the part of the patient, such as lifting a weight, walking up stairs, or merely upon rising from bed, or, rupture may follow more definite trauma, such as a blow upon the abdomen, a gynecologic examination, or a fall. Lynch[4] reported four cases following gynecologic examinations, and Lapeyre[5] presented two cases following a blow upon the abdomen. Spontaneous rupture occurs frequently, and is generally associated with perforation (Planson,[6] Horine,[7] and others).

The offending organisms are most frequently the colon bacillus, streptococcus, staphylococcus, and gonococcus; less frequently, the Koch bacillus and typhoid. Brickner[2] found 11 cases which were gonorrheal in origin and 12 which were puerperal in origin. Apparently the colon type of infection is the most virulent, inasmuch as this type, in the majority of reported cases, is associated with perforation rather than rupture.

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SYMPTOMATOLOGY

The symptomatology and findings are characteristic, simulating an acute abdomen due to a ruptured viscus. Pain is severe and sudden, and is the first sign of peritoneal irritation. Sabadini[8] describes it as intense, violent, dramatic, and syncopal in either the right or left iliac region, diffusing rapidly over the entire abdomen. The pain in most instances is accompanied by a state of collapse, with pale facies, cold and clammy skin, and rapid, thready pulse. The temperature rises quickly, with chills. Nausea and vomiting are frequent. The abdomen shows abolition of respiration, rigidity, and marked tenderness. In cases in which a pelvic mass was demonstrable before the onset of these symptoms, a diminution in the size of this mass may be noted. There is marked tenderness in the cul-de-sac and adnexal regions. The possibility of rupture should always be considered in a patient with known pelvic infection who, following trauma, or gynecologic examination, or without such procedure, shows symptoms of collapse.

PROGNOSIS

The prognosis is generally grave and depends upon the manner of rupture, the virulence of the offending organism, the rapidity of diagnosis, and the time and manner of surgical intervention. As was previously stated, perforation is commonly associated with the more virulent type of infection, and trauma with that of a relatively cold pyosalpinx. In Huet's[3] collection, there were seven recoveries in 19 cases of rupture, and there were eight deaths in 12 cases of perforation.

It is obvious that early surgical intervention is of prime importance, inasmuch as most patients are already in shock and are therefore poor surgical risks. Lubke,[9] in his statistics of 1923, found a mortality of 27 per cent in those patients operated upon before the twelfth hour after rupture, and a mortality of 66 per cent in those operated upon after the twelfth hour. In Bonney's[1] collection, there were 14 recoveries in 20 patients operated upon before the twelfth hour after rupture, and four deaths in five patients operated upon after the forty-eighth hour of rupture. Of the 36 unoperated patients in Brickner's[2] series, the mortality was 100 per cent.

SURGICAL PROCEDURE

Laparotomy and drainage is, of course, the basic operative management; however, the type of drainage is still of some question. The greatest number of cases reported in the French literature and, apparently, with the greatest number of recoveries were treated with the Mikulicz drain, its favor being due to its greater surface area, which permits more absorption and drainage. Lapeyre[5] cited four patients treated with the Mikulicz, with recovery in all. Planson[6] and Haller[10] reported four patients also treated with the Mikulicz, with no mortalities. In Lynch's[11] four patients treated by means of rubber tubes, there was a mortality of 50 per cent.

We believe that an adequate amount of surgery should be done for these cases, the operator bearing in mind the manner of rupture, the virulence of the offending organism, the amount of pathology in the pelvis, and the condition of the patient. If circumstances permit, it is best to do a salpingectomy; if the opposite tube is involved, bilateral salpingectomy and subtotal hysterectomy. This is in accord with the opinion of many gynecologists. In Planson's[6] cases, subtotal hysterectomies were performed. Layepre[5] reported four cases: two patients treated by means of subtotal hysterectomy, one treated by bilateral salpingectomy, and one treated by unilateral salpingectomy. All recovered. In Haller's[10] report of two cases, the first patient, operated upon 10 hours after rupture, was treated by means of a bilateral salpingectomy and subtotal hysterectomy. The second, operated upon 19 hours after rupture, was treated by salpingectomy; both recovered.

Our series comprises a total of 463 cases of tubo-ovarian abscesses occurring in the State Charity Hospital from January, 1930 to October, 1937. There were two cases of ruptured pyosalpinx in this series. The incidence as to race and age is given in Table I.

TABLE I

Incidence of Tubo-ovarian Abscesses
Race and Age Groups

Age	White	Colored	Per Cent White	Per Cent Colored
15-25	74	134	15.98	28.95
26-35	54	120	11.66	25.92
36-55	33	47	7.13	10.15
No age	0	1	0.00	.21
Total	161	302	34.77	65.23

TABLE II

Location	No. of Cases	Per Cent
Bilateral	113	24.41
Right	184	39.74
Left	128	27.64
Not mentioned	38	8.21
Total	463	100.00

It is apparent from Table I that tubo-ovarian abscesses occur most frequently in the childbearing age. The incidence in the colored race is approximately twice that in the white race.

It is interesting to note in Table III that 142 patients with unruptured tubo-ovarian abscesses were operated upon with a mortality of five, or 1.08 per cent. Incision and drainage was done in four, with recovery in each case. Six tubo-ovarian abscesses were ruptured during removal, with one mortality. Seven patients received posterior colpotomies; each recovered.

TABLE III

Tubo-ovarian Abscesses

Not Ruptured		Ruptured			
No. operated	Mortality	No. not operated	Total	Total operated	Mortality
142	5	311	8	2	8
30.67%	1.08%	67.17%	1.72%	.43%	100%

Of the unoperated ruptured abscesses, the mortality was 100 per cent. Two cases of tubo-ovarian abscesses with rupture were operated upon without recovery. However, the first had been ruptured for 48 hours before operation, and the second expired on the operating table just as the abdominal incision was being made.

Cases 534 and 310 represent the two cases of ruptured pyosalpinx occurring in our series.

CASE REPORT

Case 534. Colored, aged 43, admitted to medical ward June 4, 1934 and discharged July 3, 1934 as recovered. The chief complaints were pain in abdomen, vomiting, and fever. The illness started on June 3, 1934, with excruciating pain in lower abdomen. She took salts shortly after onset of pain and vomited several times. Examination: B. P. 130/90; temperature 102; pulse 120. The abdomen was moderately distended, rigid, and very tender to examination. Laboratory: Wassermann negative; blood chemistry negative; urine: sp. gr. 1.030; albumin 2 plus; occasional R. B. C.; blood count: W. B. C. 25,000; N. 92 per cent; S. M. 8 per cent; roentgen ray revealed moderate distension of jejunum with few fluid levels. Progress: After observation on medicine, patient was thought to have intestinal obstruction. She was taken to the operating room. On entering the peritoneal cavity, a large amount of highly colored purulent material was found. The large bowel was markedly distended. The pelvis contained a large tubal abscess with a small perforation about 2 cm. from the cornual end of the tube. The postoperative diagnosis was perforated tubal abscess with generalized peritonitis. Ileostomy, salpingectomy and drainage were done.

Case 310. Colored, aged 55, admitted October 6, 1930 and died October 7, 1930. On admission the chief complaints were pain in lower abdomen, fever, and chills. The illness began with pain in lower abdomen for past two weeks, more marked on the right side. Two days prior to admission, the pain suddenly became severe. She had a chill shortly afterward, and thought she had fever. The patient had been in bed for the past two weeks. Examination: B. P. 106/60; temperature 103; pulse 130. The patient appeared very toxic, and was perspiring a great deal. The abdomen was rigid and tender, and a mass the size of a four months' pregnancy could be palpated in the lower right abdomen. Pelvic examination revealed a large tender fluctuant mass bulging into the cul-de-sac. Progress: Diagnosis of ruptured tubo-ovarian abscess was made and the patient taken to the operating room. On opening the peritoneal cavity, the right tube was seen to be greatly distended and filled with a purulent material. There was a small defect in the wall of the tube about 3 cm. from its cornual end. The patient expired shortly after the abdominal incision was made. The postoperative diagnosis was perforation of right tubal abscess with general peritonitis.

DISCUSSION

It is evident from the histories that both cases were perforations which had occurred spontaneously.

The symptomatology and findings in the first case were not typical, the diagnosis of ruptured pyosalpinx being made at operation. However, sudden severe pain was a prominent feature. The tubal abscess had apparently perforated 24 hours prior to operation. A culture was made, but proved to be sterile.

The operative procedure consisted of ileostomy (inasmuch as a paralytic ileus was thought to be co-existent), salpingectomy, and rubber-tube drainage. The condition of the opposite tube was not mentioned in the operative description.

The second case was that of a pyosalpinx which had perforated 48 hours prior to admission into the hospital. The symptomatology and findings suggested a ruptured tubo-ovarian abscess. Operation was attempted, but the patient expired shortly after the abdominal incision was made. Unfortunately a culture was not taken.

The importance of earlier diagnosis and earlier surgical intervention in this case is apparent and, we believe, might have offered a more favorable prognosis.

SUMMARY

1. The incidence, etiology, symptomatology and treatment of ruptured pyosalipinx are reviewed.

2. A series of 463 cases of tubo-ovarian abscesses, occurring in the State Charity Hospital from 1930 to 1937, is presented. Eight cases of ruptured tubo-ovarian abscess occurred in this series.

3. Two cases of perforated pyosalpinx occurring in this series are discussed. The first was operated on 24 hours after perforation of the tube. An unilateral salpingectomy, with abdominal drainage by means of rubber tubes, was performed. The second case was operated upon 48 hours after perforation; however, at this time the patient was a poor surgical risk and expired.

4. The mortality occurring in our two cases was 50 per cent.

5. The importance of early diagnosis and early surgical intervention with an adequate amount of surgery is stressed.

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DISCUSSION

Dr. N. J. Tessitore (New Orleans): Several important factors are gathered from this presentation, the first of which is the predominance of tubo-ovarian abscesses occurring in the colored as compared to the white. In this particular series there were only two cases of ruptured pyosalpinx. This relative infrequency, however, should not lead us to ignore the possibility of such a condition in a gynecologic patient with an acute abdominal syndrome.

(2) The two types of ruptures that have been discussed are: spontaneous perforation of a distended tubal wall and those that occur due to trauma. Of the two, those that occur spontaneously are the more virulent. (3) A high mortality is associated with ruptured tubo-ovarian abscess and pyosalpinx. (4) In touching upon the treatment of these cases, I wish to compare the treatment as instituted by the French as compared to ours. We have a tendency to be conservative, treating them as cases of peritonitis. The French are much more radical, instituting immediate laparotomy, drainage, removal of diseased structures, and their results are much better than ours. Possibly we should be more radical in the treatment of these cases.

Finally, in order to improve our mortality it is absolutely necessary that we make an early diagnosis and institute early surgical intervention.

Dr. Peter Graffagnino (New Orleans): Dr. Tessitore and Dr. Potekin should be congratulated on bringing this timely subject before us at this meeting. As they have recorded them here, two definite points stand out in the analysis of these cases. The first point is that the incidence of pyosalpinx is not as infrequent as we are led to believe in some literature studies, and the possibility of rupture is ever present. The thing that has struck me forcibly is that it is possible that we have been entirely too conservative in the treatment when there is a collection of pus in the pelvis. The tendency has been to allow cases to rest for too long a period of time and radical procedures should be instituted more often than hitherto.

The second point that was brought out is that apparently conservative treatment after rupture has been attended with more serious results than radical procedure. It would appear from these studies that we have been too conservative in handling cases after rupture takes place. Drains alone are apparently not sufficient to take care of damage in the peritoneal cavity. The paper brings out definitely that the sooner the case is recognized and radical operative procedure is instituted, the better the results obtained.

Dr. J. S. Potekin (In conclusion): I would like to stress one point before closing the discussion of this paper. I believe that the operative procedure should be more radical than that practiced in this country. By that I mean on entering the abdominal cavity in a case of ruptured salpinx, the ruptured tube should be removed. The French have shown that the mortality is not increased when the tube is removed and some report recoveries of one hundred per cent in a series of four to eight cases. It is our tendency here to make a diagnosis of generalized peritonitis, insert a drain and close the abdominal cavity.

HYPERTHYROIDISM*

R. B. WALLACE, M. D.
ALEXANDRIA

Hyperthyroidism is a subject which is receiving marked attention by the medical profession because it seems to be on the increase, and for the reason that its management and treatment have become so almost universally standardized that earnest surgeons throughout the country may successfully benefit and cure these unfortunate individuals. In this paper only certain divisions of this topic will be discussed.

CLASSIFICATION

The subject has two divisions: (a) diffuse goiter, i. e., exophthalmic, Graves' disease; (b) nodular goiter with hyperthyroidism.

Exophthalmic goiter may occur at any age, several patients having been operated on successfully under the age of five years.[1] Nodular goiter with hyperthyroidism occurs in later life, and I shall comment here that it is usually more serious because of coincidental lesions.[2]

DIAGNOSIS

Briefly, this is established: (a) subjectively, by enlargement of the neck, nervousness, emotional instability, loss of weight in spite of increasing appetite, sweating and intolerance to heat; (b) objectively, by enlargement of the gland (which may be only slight in diffuse goiter), tachycardia, tremor of the hands and fingers, increased tendon reflexes, warm lusty-colored hands and elevation of the systolic blood pressure without a corresponding rise of the diastolic.[3] In Graves' disease exophthalmos and stare are noted. Tachycardia is the most dependable sign of hyperthyroidism and closely following this in significance is weight loss.[4]

The laboratory furnishes many valuable data. The basal metabolic rate is usually high in exopthalmic goiter but it varies, being as high as +90 or as low as —20.5. The iodine tolerance test[5] which may be used to reveal at specific time intervals as zero hour, one half hour, one hour, one and a half hour, and two and a half hours; the blood iodine, which does not rise to so high a level in the hyperthyroid patient as in either the normal or non-toxic goiter case. The impedance angle test,[2] made by the use of an electrical device, aids in the diagnosis and is accurate in 71 per cent of cases studied. Cholesterol determinations are relatively low in hyperthyroidism.

TREATMENT

Irradiation has been employed by several radiologists[6,7,8,9] reporting good results in many cases treated. A sclerosing solution injected into the gland has also been proposed.[10] Two authors[11] have obtained good results by administering a high fat diet. However, the preponderance of evidence leans strongly to surgery, i. e., subtotal thyroidectomy, as the choice of procedure in the greatest number of cases. Since 1923, the date Plummer[12] established the significance of iodine in the treatment of hyperthyroidism, this drug has been universally employed as a preparatory treatment in surgery on the gland, and I shall discuss it rather freely from the literature as accepted at the present time.

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The chief action of iodine is mechanical[13] because of the rapid increase of the colloid content of the gland. This causes back pressure on the glandular acini and cell structure, as well as on the blood vessels by which they are surrounded, thus producing decided edema within the gland. It is the mechanical action of the edema which causes stasis of the functional activity in the secreting cells of the glandular tissue; therefore, less toxin is poured into the blood stream, and clinical improvement is soon apparent. But long continued administration of iodine will cause the patient to become "iodine-fast." Similarly, it may be expressed[14] that iodine produces a synthesis of protein—a production and storage of colloid; but it may be stated here that as the gland fills up with colloid owing to the iodine blockade, an increasing secretory pressure is built up within the gland which finally forces the blockade or barrier, and thyrotoxicosis in some degree returns.

Iodine response, Lerman's statistics[5]: 96.6 per cent showed the usual drop in basal metabolic rate (15 points in the higher brackets and 10 points in the lower were considered a positive iodine response) and 3.4 per cent showed no significant change or at most a doubtful change. There were eight deaths, 1.1 per cent in the group which responded to iodine therapy and six deaths, 24 per cent, in the group which failed to respond. There were eight operative deaths, 1.3 per cent, in the former group and six deaths, 24 per cent, in the latter group. The mortality rate was about twice as great in males in the positive iodine response group and about identical in the negative response group. Concerning age, 10.5 per cent of patients over 50 years of age failed to respond to iodine, whereas only 2.1 per cent of those under 50 failed to do so. The mortality in both groups tended to increase with age, being always higher in both groups when they were iodine negative.

An analyzed factor demonstrated that more patients responded to iodine with a high metabolic rate, say above plus 30, than those under this figure: e. g., 48 per cent of the negative response group had a metabolic rate of under plus 30, as against 19.4 per cent of the positive response group. Therefore it may be stated that the incidence of negative response was higher in the lower bracket.

The thyroid glands were classified as either nodular or diffuse. Sixty patients, 8.6 per cent, who responded to iodine had nodular goiters, whereas 36 per cent of the non-responding group had them. There were twice as many deaths in the negative group with nodular goiters as in the same group with diffuse goiters, the operative mortality rate being 4.5 per cent of 111 patients with nodular goiters and 2.2 per cent in 671 patients with diffuse goiters.

The data indicate that the type of iodine response was not influenced by cardiac enlargement; however the mortality rate was greater in both groups with cardiac enlargement, 2.1 per cent and 41.7 per cent for the positive and negative groups respectively with cardiac enlargement and 0.5 per cent and 7.7 per cent respectively for positive and negative groups with it. In cardiac diseases of all types, the mortality rate was 14.2 per cent.

It was noted in patients who did not respond to iodine therapy in contrast to those who did that: (1) Generalized arteriosclerosis was three times as prevalent; (2) that mortality was greater in those who had arteriosclerosis; (3) that those patients with arrhythmias, particularly fibrillation, responded less often and that the mortality rate was higher, and (4) that both blood pressures, systolic and diastolic, were always higher.

The response to iodine medication is admirably discussed by Lerman[15] in a critical study of 731 cases. A normal or low blood iodine, (normal is 10 micrograms per 100 c.c. of blood), in a patient with indisputable evidences of hyperthyroidism is a bad prognostic sign, indicating a poor surgical risk and a strong possibility of recurrence[16].

Since in the preliminary surgical treatment of hyperthyroidism, more iodine is administered than to fulfill the requirements of the thyroid gland, it seems reasonable to assume that its effects elsewhere must play some beneficial role[17].

Since primary iodinization produces the most marked and beneficial effects in a hyperthyroid patient, Bethea[18] advises that in exophthalmic goiter, iodine should be used only to prepare the patient for operation. The patient should be operated on comparatively early, for in the severe, later stages, the result is survival rather than recovery.

The preparation of the patient for surgery consists of rest in bed, sedation, administration of a high carbohydrate diet and iodine in the form of the compound tincture (Lugol's solution) in doses of ten drops three times daily in orange juice for a period of from ten to fourteen days—up to three weeks if necessary, at the end of which time a subtotal thyroidectomy is done. Exceptions will be mentioned later.

TYPES OF ANESTHETIC

The type of anesthetic is then considered: (a) Avertin, 90 to 100 milligrams per kilo, supplemented with nitrous oxide is preferred by Sommer[3] because quiet and sleep will continue postoperatively from three to six hours; (b) Nordland[4] states that gas (nitrous oxide and ethylene) is the ideal anesthetic for marked hyperthyroidism. In visiting the various clinics I have been impressed by the good results of infiltration anesthesia supplemented by gas administration. But in the patients with hyperthyroidism on whom I have operated, I have used rectal anesthesia of ether in oil as outlined by Gwathmey[19] and find it most satisfactory.

Certain cases may require pole ligation or ligations, but preferably it seems in these cases that two stage lobectomy is better. They are grouped by Davison and Aries[20] as follows: (a) The intensely toxic patients who do not respond satisfactorily to iodine preparation[2]; (b) the so-called iodine resistant glands; (c) those patients with outstanding cardiac manifestations not responding satisfactorily to treatment, whose symptoms are due either to primary thyrotoxic myocardial degeneration, or are superimposed on an organic heart disease; (d) those of advanced age with systemic arteriosclerotic changes, and (e) those with associated pathology as would make them poor risks for any surgical procedure. Iodine is not given (after the patient leaves the hospital) between the lobectomies, the second of which is performed from six to twelve weeks after the first, except that iodinization is done preparatory to the second lobectomy.

As the operative technic is adequately described in many texts I shall omit this procedure.

POSTOPERATIVE MANAGEMENT AND CRISIS

The postoperative treatment consists of free administration of fluids, 2000 to 4000 c.c. in the first twenty-four hours of which 1000 c.c. are glucose solution given intravenously. Morphine and pentobarbital (which act synergistically) produce quietude. DeCourcy[13] advises administration of 31 grains of sodium iodide intravenously immediately following operation—while on the operating table. In the following twenty-four hours 100 minims are administered rectally. The semi-upright position of the patient produces comfort. But Davison and Aries[20] state, after a careful study of a hundred cases, that the use of iodine following subtotal thyroidectomies is fallacious.

I wish at this time to discuss postoperative crisis. McQuillan and Breidenbach[21] state that thyroid crisis cannot be explained by a single over secretion theory. It frequently occurs following a radical subtotal thyroidectomy where a small portion of traumatized tissue is left in, and this tissue does not function until healing has taken place. The theory of suppressed secretion is sounder, and suggests the use of thyroxin which has shown to be successful. Its usefulness is based on the probability of a sugar starvation of the cells of the central nervous system. This condition is accompanied by low blood sugar, and thyroxin has been found to raise the blood sugar. Liver damage certainly plays an important role in this feature and all other phases of hyperthyroidism.

While the alarming state of crisis has not occurred so frequently since introduction of iodine, the preparation for its treatment should be anticipated. A crisis in the hyperthyroid patient may develop spontaneously, may follow traumatic injury, may follow an operation other than on the thyroid gland, but most commonly it is in relation to these operations. An activation of the disease may occur if a focus of infection becomes active as an acutely abscessed tooth or an attack of acute tonsillitis[22].

An impending crisis may be recognized[2] by an increase of a known pulse rate, a clear mentality becoming irrational and if vomiting and diarrhea occur (because then the patient is losing the balance of metabolism). The treatment consists of giving her something to burn instead of herself; administer salt solution and glucose intravenously day and night at the rate of 40 to 60 drops per minute—do not interrupt the treatment. Also by another vein give from 500 to 800 grams of 50 per cent glucose daily; then put the patient on a high carbohydrate diet by mouth for three weeks and then do a lobectomy, removing the second lobe in about six weeks. If vomiting and delirium occur 50 drops of Lugol's solution may be placed in 1000 c.c. of fluid and administered intravenously[2].

Sloan[22] gives two grams of thyroid extract by rectum and expects results in twelve hours, while thyroxin intravenously may act in four hours. He advises the oxygen tent with 50 per cent air-oxygen mixture early, also blood transfusions.

Pemberton[23], following Kendall, used sodium chloride intravenously and sodium citrate and cortin with good results in one case.

Another important complication is hemorrhage which may produce marked pressure on the trachea.

Mortality may be caused by pneumonia, cardiac failure, thyroid crisis, air embolism in the pulmonary artery, cellulitis and hepatic damage.

By recurrence, as contrasted with persistence, it is understood that after a patient having had a subtotal thyroidectomy and iodine has been discontinued, with complete abatement of symptoms and a normal metabolic rate for three or more months, the patient then develops signs and symptoms of hyperthyroidism with an increase in the basal metabolic rate. This patient has a recurrence of hyperthyroidism. The treatment is additional surgery but good results have been recorded by radiologists[6].

I have operated on four patients with hyperthyroidism, two of the diffuse type and two nodular. There was no mortality in this small series. I shall report in some detail one of these cases.

CASE REPORT

Case 1. Miss L. M., aged 43, came to my office March 25, 1937, with the following symptoms: nervousness, insomnia, trembling all over at times, dyspnea, weak eyes (inability to read a newspaper), free expectoration, had coughing spells in the mornings, weakness, nausea recently, no appetite, weak legs, and a loss of fifteen pounds in weight. All the symptoms have occurred since an attack of influenza February 7, 1937.

Examination revealed a cardiac rate of 124, marked tremor, very nervous, slight stare, thyroid gland enlarged bilaterally, especially on right. The basal metabolic rate was +98.

She was immediately sent to the hospital, prepared for thirteen days by the accepted methods and then a subtotal thyroidectomy was done; the postoperative course was never alarming and she left the hospital on the tenth day.

She returned for a check-up August 17, 1937, at which time the basal metabolic rate was -3. By request she returned to the office April 10, 1938, at which time the basal metabolic rate was +2. All abnormal signs and symptoms except the weakness in her legs had completely disappeared.

SUMMARY

Since hyperthyroidism seems to be increasing and since the voluminous literature is conclusive that these patients may either be cured of the disease or at least relieved of many of the symptoms, the challenge to the profession is at hand.

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DISCUSSION

Dr. J. E. Heard (Shreveport): Goiters have always been of peculiar interest to me ever since I have been in the practice of surgery and I think we may safely say that the goiter problem is still an unsolved problem. The results of our present known methods of treatment are not as satisfactory as they should be. It is true that if they are properly handled they are fair. You might say the trouble is that the thyroid gland is so closely associated with the pituitary, adrenal and ovaries in women, and other glands about which we know little, that the problem will never be solved until we understand the endocrine system.

The diagnosis of this condition is not always easy, by any means, especially in the borderline cases. Several conditions are easily confused with hyperthyroidism, one of which is neurocirculatory asthenia. Patients who are toxic require careful study and prolonged observation before accurate diagnosis can be made. Once the diagnosis of definite toxic goiter is made, our system has been to put the patient to bed, keep quiet, put on high caloric diet, give plenty of fluids and start the patient out with Lugol's solution and increase to fifteen drops a day. Lugol's solution will show improvement usually within ten days. It does not, however, always work and when it does not we go back to other methods.

If carefully managed, all of these patients can be carried through operation with very low mortality. Until the pulse stabilizes at around 100, I think that the operative risk is questionable. My system has been to use sodium amytal and put the patient to sleep in bed and then continue the anesthetic with ethylene and ether. My results have been comparatively very satsiafctory. Many patients, after they are put on the operating table, are refused operation and sent back to their room still being too toxic and in too bad a condition for operation. The pulse shoots up tremendously when they are put to sleep and if it does not fall rapidly it is a good idea to send the patient back to bed. The study of this problem, I think, is one of the most interesting that confronts us in surgery. It has always been very intriguing to me and I wish that we knew more about it.

Dr. O. W. Bethea (New Orleans): It has not been long since a surgeon would have hesitated to ask an internist to discuss a paper on thyroid disease. The internists claimed that when a goiter reached the surgeon some physician had blundered. The surgeons insisted that their high operative mortality was largely due to the prolonged and inefficient efforts on the part of the internist to accomplish the impossible.

A few years ago the elder Plummer, with Boothby and Wilson, published a cooperative study of thyroid disease that constitutes one of the masterpieces of medical literature. It had much to do with bringing about a more harmonious understanding as to the relative fields of the various divisions of medicine and the matter of closer cooperation.

I had the privilege of studying Dr. Wallace's paper. I appreciate the large amount of work expended in its preparation and there are so many good things in it that the limited time available prevents even enumerating them. He did not particularly emphasize the tendency of today to regard the surgical approach to goiter as not being a one man job. He probably took for granted the general understanding of this fact.

Toxic goiter, whether it be adenoma with hyperthyroidism or exophthalmic goiter, requires careful preparation of the patient before he reaches the operating table. Not only this, but there is a place for the internist to be of distinct value in the management of convalescence.

Dr. Wallace speaks upon the best time for operation. I believe that the selection of the opportune moment has much to do with the outcome of the case. The tendency today is to have no definite pre-arranged time for operation but to be guided by the progress of the individual. In other words, the patient is given the benefit of rest, diet, and iodine therapy. The case is carefully checked with basal metabolic readings, careful observations of pulse, temperature and blood pressure. When these data indicate a satisfactory remission, operation is immediately performed.

Another important factor in the preparation of the patient is attention to the circulatory apparatus. Many of these cases show myocardial insufficiency. Rest, digitalization and other available measures will usually restore compensation to the point where the circulatory apparatus ceases to be an added danger.

Dr. R. B. Wallace (In conclusion): I am very much interested in hyperthyroidism and the different types of goiter. This is too vast a subject to be discussed in fifteen minutes and I only attempted to discuss certain features of it.

I appreciate what Dr. Heard said about associated handling. We know that it is true that the radiologists have helped and have shown excellent results. Dr. Heard is doing a good work in Shreveport and I wish to commend him for it.

I particularly stressed association of surgeons with internists when I asked Dr. Bethea, an internist, to discuss this paper. I believe in the cooperative plan of treatment and use it as far as possible. If we were always around such an internist as Dr. Bethea our patients would probably be better off. I think it is an excellent plan to combine the efforts of internists, surgeons and radiologists. Every man has a field in this subject.

THROMBOCYTOPENIC PURPURA*

THREE CASE REPORTS

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For centuries the symptoms and manifestations of hemorrhagic diseases have been known to man, but it was not until approximately 200 years ago, 1735, that one of the greatest physicians of the 18th century, Paul Gottlieb Werlhof[1], described the clinical entity which today we know as purpura hemorrhagica, or thrombocytopenic purpura. In 1887, Denys[2], a Belgian histologist, pointed out that there was almost a complete absence of platelets in the blood smears of patients with purpura. Two years later Hayem[3] verified this observation, and added an original observation, that is, poor clot retractility. In 1907, Pagniez[4] demonstrated a connection between clot retraction and the number of platelets, and the following year Duke[5] described the method which we still use for estimation of the bleeding time. He reported two cases of purpura in which the bleeding time was prolonged.

Although only 21 years have elapsed since Kaznelson[6] first suggested to Prof. Schloffer of Prague that removal of the spleen might be of benefit, several hundred cases have been so treated and reported. While splenectomy has not given uniformly good results, cures and improvements have been of such a high percentage as to justify thoroughly the continuance of the procedure, either as a primary form of therapy, or as a supplement to conservative measures.

Although a great deal of experimental work has been done, as yet the etiology[7] has not been established. Advance, therefore, to a large extent depends on clinical experience.

Only one of the primary hemorrhagic diseases is benefited by splenectomy, and, since the picture at times may be very confusing, it is most essential to differentiate them. Fortunately, the essential features are well-known, and any competent hematologist can clarify the question.

The cardinal hematologic findings in thrombocytopenic purpura are: (1) Marked decrease in the blood platelets; (2) normal coagulation time; (3) prolonged bleeding time; (4) greatly delayed contractility, or non-retractile clot; (5) positive constrictor test.

In aplastic anemia there should be an absence of reticulated erythrocytes and leukopenia with relative increase in the lymphocytes. Acute leukemia should show the presence of immature granulocytes, or lymphocytes.

Recently, R. Egerton Elliott[8] has suggested the use of the suction test to replace the constrictor test. It is read more quickly and has ease of application to recommend it.

Although the spleen may be moderately enlarged and palpable, it is frequently too small to be palpated. Pemberton[9] reports the spleens removed in 57 cases showed no distinctive pathologic changes other than slight tendency to increase in size, and tendency to chronic splenitis. The weight in 22 cases varied from 30 gm. to 700 gm., the average being 201.25 gm. Chronicity with acute exacerbations produced the largest spleens.

The treatment of purpura hemorrhagica has intrigued the art of the internist as well as the surgeon. Notable among those suggesting conservative handling are Jones and Tocantins[10]. These authors feel that removal of infectious foci, careful attention to diet containing high proteins and high vitamins, viosterol and iron by mouth, and ultraviolet irradiation with small frequently repeated transfusions will control most cases, but conclude that either ligation of the splenic artery or splenectomy may become necessary.

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 4, 1938 at New Orleans.

SNAKE VENOM

The experimental work done by Peck and Sobotka[11] with small doses of dilute snake venom producing a refractory state to experimental purpura in rabbits, was followed by clinical application in man by Peck[12], and Greenwald[13], and most recently by Peck, Rosenthal and Erf[14]. Certainly, there seems to be a very definite indication for its use because it does decrease the permeability or hyper-permeability of the capillaries.

It has long been noted that the number of platelets did not indicate the bleeding tendencies in a given case, as some cases bleed with platelet counts as high as 100,000 and others show no bleeding with a count as low as 5,000. Brieger[15] stresses this fact.

Most recently Peck and his colleagues have suggested the use of the venom test to determine the indication for splenectomy and as a prognostic index.

In a study of 50 patients, 44 of whom definitely had idiopathic purpura, those who were refractory to venom therapy were advised to have splenectomy. Eleven patients responded to venom therapy and subsequently showed a reversal of the test; these were splencetomized and recovered clinically and hematologically. Eight patients who were refractory to venom therapy and showed a persistently positive reaction were splenectomized. Clinical and hematologic recovery occurred in one case with only symptomatic recovery in two cases. All three patients, however, showed a subsequent negative venom test.

In three patients splenectomy failed to control the purpuric condition. The venom test remained strongly positive and death ensued shortly after operation.

Postoperative recovery occurred in the tenth case, but purpuric manifestations continued and the patient failed to respond to venom therapy. The venom test remained positive.

The eleventh patient was operated on before the use of venom for therapeutic purposes. Clinical manifestations still persist and the venom test remains positive.

SPLENECTOMY

In hundreds of cases splenectomy has been dramatic, but there have been a number of instances where it failed either by immediate postoperative death, or in its failure to control the clinical manifestation of the disease. Brown and Elliott[16] have reviewed the literature and sum up the situation as follows: "Since 1916 many excellent reports in the results of splenectomy in thrombocytopenic purpura have come from European and American clinics. In 1926 Whipple[17] reviewed 81 cases, including three of his own. The operative mortality in this group was 16 per cent. Two years later Spence[18] was able to add 23 more cases, bringing the total number of reports published in the two groups to 104. The following year Quenu[19] collected a number of additional cases and found the operative mortality of 16 per cent for the entire series of 122 cases. In 1932 Eliason[20] summarized the situation to that date, having figures on 213 collected cases, five of which were his own. The results of splenectomy in this group were excellent. Cures were reported in 73 per cent; improvement in an additional 8 per cent, that is, 81 per cent of the patients were benefited by the operation. The operative mortality was 13 per cent for the entire group, but only 8 per cent in the 113 cases reported between 1928 and 1932. Of the 156 cases reported as cured only five had been followed for five or more years. In the same year Giffin[21] published results in 44 cases in which splenectomy was done at the Mayo Clinic. The operative mortality was 7 per cent. However, 20 splenectomies were performed for purpura between March 7, 1923 and January 1, 1927, without a single operative mortality. One patient died of recurrence of the disease five years after the operation. The remaining 19 patients were alive and had suffered no serious hemorrhagic manifestations in a follow-up period of from five to nine years. In 1934 Pemberton[9] reported 13 more cases from the Mayo Clinic, bringing their total to 57 cases, the highest series so far to be published from any single clinic. Four patients died while still in the hospital, giving the figure for the operative mortality of 7 per cent for the whole group, or the same as that quoted by Giffin for their first 44 cases. Permanent remission of the disease was achieved in 63 per cent of the patients who survived. An additional 35 per cent were improved and in only one case did the disease recur in the acute form."

Brown and Elliott added 21 cases to their own, 10 of which were treated with splenectomy and 11 with conservative measures. Of the 10 cases splenectomized, four showed symptoms completely arrested; four markedly improved; one improved; one unimproved and one died. Of the 10 treated conservatively, three are considered completely arrested; none markedly improved; two improved; five unimproved and one died. They conclude that: (a) In carefully selected patients with thrombocytopenic purpura, adequately prepared for operation, splenectomy by an experienced surgeon is a highly effective form of therapy, carrying a relatively low rate of mortality; (b) the subsequent course of such patients, when compared with their lives previous to the operation, and with their lives during conservative measures, justifies the risk inherent in a major operative procedure.

I have had the opportunity of handling three cases of purpura hemorrhagica in the past eight years, and submit the following case reports:

CASE REPORTS

No. 1. T. L., a white female, 7 years of age, was admitted to Charity Hospital March 31, 1930, with a complaint of bleeding from the mouth and nose. Present Illness: On awakening on the morning of March 31, 1930, noted bright red blood on the pillow. The blood seemed to come from the mouth. First-aid measures failed to stop the bleeding and the child was brought to the Charity Hospital. Two months prior to this time, the mother had noted similar blood oozing from the gum around a decayed tooth and small purple spots on the neck and chest which spread to the body and arms and legs. Past history was irrelevant. Family History: Father, mother, seven brothers and eight sisters all living and well; no history of similar infection.

Physical examination shows a well developed and nourished young white girl of 7 years. There are small dry clots in the nose and oozing from the gum around a carious tooth; there are three subcutaneous hematomas on the left arm and forearm; few purpuric spots on the upper extremities; both lower extremities show multiple purpuric spots.

Laboratory Findings: April 1, 1930, red blood cells 4,865,000, white blood cells 8,500, hemoglobin 60 per cent, polynuclears 75 per cent, lymphocytes 37 per cent, mononuclears 3 per cent. Platelets 1020; coagulation time 4 minutes; bleeding time one hour, 48 minutes; urinalysis, essentially negative. Stool examination negative; icteric index 6; Wassermann negative. April 16, 1930, red blood cells 3,645,000, white blood cells 5,750, platelets 1,400. On April 18, patient was transferred to surgical service and splenectomy was done on the morning of April 19. The spleen was not enlarged and there were no adhesions. Convalescence was uneventful; maximum temperatue 100° F.; pulse 138; respiration 34. Patient was discharged May 3, 1930. Just prior to discharge blood findings were: red blood cells 4,480,000, white blood cells 10,000, platelets 227,500; coagulation time 3½ minutes, bleeding time 5 minutes. All purpuric spots began to clear up 36 hours postoperatively and disappeared before discharge.

Follow-up April 15, 1938: This young lady is now 15 years of age, is physically fine and says that she has had absolutely no return of bleeding or purpuric spots since her operation.

No. 2. N. T., white, female, aged 5 years. This child was admitted to the hospital November 8, 1934 under pediatric service. The chief complaint was bleeding from the mucous membrane of the lip. The past history shows no diseases of importance; measles at age of 3 years with no complications. Present Illness: On November 6 child had a chill and high fever; fever blister broke out on her lip; the blister broke and she began bleeding and continued to bleed slowly from this area; the lip was black and swollen. The family physician was called in and advised hospitalization. On admittance to the hospital there was bleeding from the lip and mucous membrane of the nose and mouth. Laboratory Findings: red blood cells 3,750,000, white blood cells 6,000, hemoglobin 65 per cent, polynuclears 37 per cent, lymphocytes 43 per cent, mononuclears 20 per cent, platelets 15,000. Coagulation time 2 minutes, bleeding time 14 minutes; urinalysis, essentially normal. Clot retraction incomplete in 24 hours; tourniquet test positive. Coagulants and one transfusion of 150 c.c. whole blood. Patient improved, bleeding stopped and she was discharged from the hospital November 12, 1934.

On August 7, 1936, she was re-admitted to the hospital hemorrhaging from the mucous membrane of the mouth and nose; multiple purpuric spots were present on the trunk and extremities; temperature 102°; pulse 110; respiration 120. Laboratory findings were as follows: red blood cells 3,770,-

000, white blood cells 3,150, polynuclears 57 per cent, lymphocytes 30 per cent, mononuclears 13 per cent, hemoglobin 70 per cent, platelets 20,000; malaria positive; urinalysis normal. On August 8 a direct transfusion of 260 c.c. of whole blood was given; patient's condition improved; quinine therapy was instituted. There was less bleeding from the mouth and nose. On August 9 another transfusion of 300 c.c. of whole blood was given; on the 10th patient's condition continued to improve; temperature dropped to normal; enemata on Aug. 9, 10 and morning of Aug. 11 showed particles of clotted blood and dark stools. On the morning of August 11, splenectomy was performed; freeing all adhesions to the diaphragmatic surface of the spleen caused profuse oozing but this was controlled with hot saline packs; direct transfusion of 250 c.c. of whole blood was given immediately after closure of the abdomen, patient remaining on the operating table. This little girl made an uneventful recovery; all bleeding from the mucous membranes stopped and the purpuric spots began to clear within 36 hours and disappeared entirely by the time of discharge August 19, 1936. A check of the platelets on the fifth postoperative day showed them still less than 20,000.

This case has been followed at regular quarterly intervals and her present laboratory findings are: (April 26, 1938) red blood cells 4,060,000, white blood cells 6,500, hemoglobin 85 per cent, venom test (Peck) negative. This child goes to school and takes part in all activities of a normal girl of her age. There have been no clinical manifestations of the disease for the past year.

No. 3. Mrs. M. W., white female, aged 20 years. On September 23, 1937, this young woman was operated on for chronic endocervicitis and retrodisplacement of the uterus. At the time conization of the cervix was done and a chronic appendix removed. Convalescence was uneventful and the patient was discharged October 3, 1937. Five days later she developed a severe pain in the abdomen and began passing large clots of blood from the vagina, also vomited dark colored matter and blew small clots of blood from her nose; temperature rose to 103°; her family physician was called who gave hypodermics and treated her symptomatically for two days; where the hypodermics were given large blue spots appeared. She was sent back to the hospital October 10, 1937. On admission temperature was elevated to 103°; pulse 110; respiration 20; temperature of septic type continued for eight days and then dropped to normal, remaining so until discharge October 23, 1937. Laboratory findings on admission, and subsequently were as follows: red blood cells 3,500,000, white blood cells 13,350, polynuclears 84 per cent, lymphocytes 13 per cent, mononuclears 1 per cent. Catheterized specimen of urine negative for pus cells per high powered field; coagulation time 2 minutes; bleeding time 6 minutes; platelets too few to count. On October 15, Widal was negative; malaria negative. Thorough examination failed to disclose any foci of infection in the cervix, uterus or adnexa; no other foci of infection were found. There was active bleeding from the uterus with passage of large clots; numerous purpuric spots were noted on the body and extremities, particularly the lower extremities. The lips and oral cavity and nose also showed submucous hemorrhage. Transfusions of 300, 175 and 200 c.c. of whole blood given October 12, 14 and 17, respectively; on October 11 bleeding was so profuse that antivenin, 10 c.c. was given; on Oct. 13, although the amount of hemorrhage from the uterus had subsided considerably, patient was given x-ray treatment to the spleen; on Oct. 18 patient was greatly improved and the flow from the uterus had checked entirely; she continued to expectorate small clots of blood which apparently came from the nasopharnyx; purpuric spots over the body and extremities had practically disappeared. Laboratory findings at this stage were as follows: red blood cells 2,750,000, white blood cells 9,900, hemoglobin 54 per cent, polynuclears 73 per cent, lymphocytes 24 per cent, mononuclears 3 per cent, platelets 90,000, tourniquet test positive. Although we did not feel that this young woman was entirely out of danger, financial pressure necessitated her removal from the hospital to her home on October 25. She was placed on high vitamin diet and given iron and liver extract by mouth. She gradually improved at home and reported back to my office on November 2, 1937 at which time laboratory check showed the following: red blood cells 3,750,000, hemoglobin 80 per cent, platelets 4,800, color index 1.1., venom test (Peck) negative, coagulation time 3½ minutes. Feeling that it would be extremely risky for this young woman to go through another menstrual period, she was advised to return to the hospital for splenectomy and on November 10, 1937 she was re-admitted. On Nov. 11 she was given a direct transfusion of 300 c.c. of whole blood; on 15th was given 310 c.c.; on the morning of 16th under general anesthesia, splenectomy was performed. Removal of the spleen was not extremely difficult and the patient left the operating room in excellent condition. Within half an hour after returning to her room, patient lapsed into a marked postoperative shock; pulse became imperceptible; immediate infusion of 50 c.c. of 5 per cent glucose was given which seemed to have very little beneficial effect. Since the ordinary measures for the treatment of shock did not give response, a direct transfusion of 300 c.c. of whole blood was given; the patient began to improve shortly thereafter and her general condition was greatly improved; small transfusions were given again on Nov. 18 and 19; convalescence from this point was uneventful; patient was discharged from the hospital on November 27.

This young woman has been followed up at intervals since her discharge and is at present well and strong; she indulges in all of the normal activities of a young woman of her age. Most recent check of her laboratory findings are as follows: January 12, 1938, red blood cells 4,000,000, white blood cells 8,900, hemoglobin 80 per cent, color index 1, platelets 18,512, coagulation time 2½ minutes, bleeding time 1 minute; venom test (Peck) negative. There are no manifestations of purpura present at this time and the patient has had normal menstrual periods for the past three months.

SUMMARY

While antivenin, as suggested by the work of Taylor[22], was used in case No. 3 to aid in controlling the severe hemorrhage, venom therapy has not been used. However, all three patients have recently had the venom skin test and each of them showed a negative reaction.

Although the platelet level is extremely low in cases No. 1, 2 and 3 at the present time, the bleeding time is normal and clot retraction is good.

Cases No. 1 and 2 show no clinical manifestation of the disease.

Case No. 3 shows a moderate increase in menstrual flow and an occasional small purpuric spot, but is in excellent health and leads a perfectly normal existence. This case illustrates the necessity of transfusion pre- and postoperatively.

The postoperative shock which ensues usually within one hour, as described by Lewisohn[23] was present in this case; transfusion certainly appeared to be a life saving procedure.

CONCLUSIONS

1. Splenectomy as yet seems to be the most dependable form of therapy in the largest number of instances.
2. Dilute venom as a therapeutic agent, as a prognostic indicator, and as test measure of the result of splenectomy is highly recommended.
3. Preoperative transfusion is often indicated, but in all instances provision should be made to have available blood to combat postoperative shock when it does occur.

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DISCUSSION

Dr. Ambrose H. Storck (New Orleans): The unknown etiology, and the possible occurrence of spontaneous remission in purpura hemorrhagica, account for the many methods which have been recommended for the treatment of this disease. The tendency for remissions to occur frequently leads to delay in instituting adequate surgical therapy. Methods of therapy other than splenectomy are usually of value only as adjuncts, rather than as alternative modes of treatment. X-ray and other radiation therapy is not only ordinarily of no value, but is likely to be definitely harmful in that its employment causes postponement of splenectomy and increases the difficulty of performing the splenectomy which almost always is later necessary.

The preoperative general care of the patient, as well as the preoperative administration of snake venom, antivenin, viosterol, blood transfusions, and cevitamic acid, may reasonably be considered valuable in preparation for splenectomy. Furthermore, the postoperative use of such supplementary treatment will reduce materially the number of unsatisfactory results which otherwise follow splenectomy.

The recent work of Troland and Lee is of great importance and has contributed to the possible eventual solution of the etiology of purpura hemorrhagica. These investigators have been able to produce and maintain thrombocytopenia in experimental animals through repeated injections of an extract made from spleens removed from patients with purpura hemorrhagica. Troland and Lee consider that the substance responsible for the thrombocytopenia is so distinct and definite in its action that it may be designated as thrombocytopen. The process which is responsible for the elaboration of this substance in the spleen quite probably involves other parts of the reticulo-endothelial system.

Dr. N. F. Thiberge (New Orleans): I am not in a position to discuss surgically the paper of Dr. Snelling, but it seems to me that something might be done before the patient developed the characteristic clinical symptoms that would necessitate splenectomy.

In my department of allergy, many cases of skin eruption are referred to us for testing, and we noticed that some of them (about 5 per cent) presented hemorrhagic spots. It occurred to us to make blood counts and we found that in many instances the platelet count was low. We gave them injections of histamine and proper diet was instituted. Another count of platelets was made and we found it higher. The question came to my mind as I was here listening to the paper as to whether some of these cases could not have been prevented by taking them in their incipiency and ascertaining the incidence of allergy in these conditions, and should the presence of an allergic background be found, whether it would not be advisable to test for the different foods and also to try the effect of histamine subcutaneously in these cases.

Dr. Isidore Cohn (New Orleans): In the first place, it was my privilege to be the first one in this section to do a splenectomy successfully for purpura hemorrhagica in 1922. The young man is still alive, not suffering from the loss of his spleen. He has never had any recurrence. I have been tremendously interested not only in the clinical phases but in experimental features.

One reason why there are failures from splenectomy in some cases of purpura hemorrhagica is that the operation is only successful in proportion as the spleen is the greatest offending organ of the reticulo-endothelial system, as first described by Aschoff. If the spleen is not that portion of the reticulo-endothelial system which is greatest involved, the results will not be as good. It is important to keep in mind that every patient who is bleeding and has an enlarged spleen is not a case of purpura hemorrhagica.

We must remember that in pernicious anemia, in Banti's disease, and in polycythemia, there are enlarged spleens associated with purpuric manifestations and hemorrhages.

I would like to bring to mind the fact that we attempted many years ago, during the lifetime of Foster Johns, some experimental work to produce an anti-platelet serum; we were unable to produce such a substance.

I would like to say that the term thrombocytopenic purpura is one that I am unable to understand. It is truly not essential thrombopenia, signifying that we believe that there is an absence of the platelets formed.

Foa, in 1924, did a remarkable piece of work and demonstrated that it took two to three weeks for the platelets to be regulated. Immediately after splenectomy there is marked increase of platelets in the peripheral blood stream. That being the case, it is not a question of non-formation, it is a question of some substance in the blood stream which is destroying the platelets as they are formed.

For that reason, I hope the term essential thrombopenia will cease to be used in the literature and thrombocytolytic purpura accepted as the proper term.

Dr. E. C. Smith (New Orleans): I would like to refer to the first case reported by Dr. Snelling. I was fortunate in being an intern at that time and assisted him at that operation. The bleeding time was one hour and 48 minutes before operation. During the operation we could see that the capillary oozing, noticed in the beginning, had begun to diminish, and when the patient was sent back to the ward the bleeding time had dropped 10 minutes, and the next day it had dropped about one-half, or to 30 or 35 minutes, and then on the third or fourth day, the bleeding time was down to practically normal.

I have had the opportunity to observe the patient from then until now, and have seen her go into puberty without any trouble. She has normal menstrual periods which began about two years ago.

In some reports, the use of oil of sesame to stimulate production of platelets is mentioned. I would like to ask Dr. Snelling if he has had any experience with it.

Dr. John G. Snelling (In closing): In reference to the work of Troland and Lee, I think it is very interesting and seems to draw the conclusion, at least for the time being, that operation does help these patients. I tried to bring out the point that the number of platelets did not seem to be a factor of great importance. After splenectomy, the cases are clinically cured, and yet there is a very low platelet count. If the number of platelets was essential to do away with, or rather to prevent manifestations, then it would seem logical that these cases would continue to bleed, since they have such a low platelet count. I think the work of Troland and Lee in which they produced the same picture in rabbits after injecting splenic extract from cases of thrombocytopenic purpura would indicate that there is a substance in the spleen, we do not know what, and it is this substance that produces the disease entity rather than the low number of platelets.

In reference to Dr. Thiberge's observation, I think we all realize that it is necessary to remove foci of infection, and certainly allergy should be looked for, because we all know of the number of secondary purpuras, in other words, secondary to focal infections, or acute toxemias, also, to drugs. There have been a number of cases reported recently in which purpura was secondary to the use of sedormid. Lord Dawson of Penn makes a very concise statement when he says there are three types of disease in which splenectomy is indicated: acholuric jaundice, splenic anemia, and purpura hemorrhagica.

I think Dr. Cohn's contributions to the work on the indications for splenectomy are well recognized by all of us.

Dr. Smith was the intern in charge of Case 1, and has been very helpful in obtaining a follow-up record, and I wish to thank him at this time.

DETERMINATION OF VITAMIN C DEFICIENCY*

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and
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The role of vitamin C in the normal physiologic processes of the body and its importance in various pathologic states have been the subjects of extensive investigation since the isolation and synthesis of cevitamic acid in 1932. Vitamin C may be of some importance in certain enzyme systems in the body, playing a part in tissue respiration with the role of a hydrogen transport.[1] It also regulates the condition of the intercellular substance.[2] The outstanding manifestation of vitamin C deficiency, scurvy, has been recognized for many years, but mild manifestations of this condition are frequently overlooked. Furthermore, recent investigations have indicated that a deficiency of cevitamic acid exists in many other diseases, especially those associated with increased metabolism and with disturbances of the gastrointestinal tract. Vitamin C deficiency may be due to an increased need for and utilization of the vitamin, a diminished absorption, or increased destruction in the gastrointestinal tract, or to a deficient dietary intake. In a number of infections, tuberculosis, rheumatic fever, rheumatoid arthritis, osteomyelitis, whooping cough and pneumonia, a deficiency of this vitamin has been shown to exist. There is some evidence that vitamin C plays a part in the mechanism of immunity, that it is important in the healing of wounds and that it is intimately related to pigment metabolism. A deficiency of vitamin C has been suggested as a factor in the development of hemorrhage from peptic ulcer.

Routine examination of clinic and hospital patients has revealed that a high percentage exhibit a deficiency in this essential nutritive factor. There is undoubtedly a wide range between optimal vitamin C nutrition and clinical evidence of scurvy. Estimations of the daily requirement of cevitamic acid for an adult vary from 25 to 60 mg.[1,3,4] while the optimal requirement is, no doubt, considerably higher than this. The determination of mild or subclinical vitamin C deficiency is, in the light of the above observations, becoming increasingly important.

METHODS OF DETERMINING VITAMIN C NUTRITION

Methods of determining the amount of cervitamic acid in the tissues and fluids of the body are based on the fact that this substance is a strong reducing agent. Titration against the oxidation-reduction indicator, 2-6-dichlorphenolindophenol, is used extensively, yielding results which check closely with those obtained with methods of bio-assay. Procedures which have been used to determine the state of vitamin C nutrition have included: (1) examination of the amount of cevitamic acid excreted in the urine in a 24-hour period, (2) determination of the level of reduced cevitamic acid in the blood plasma in the fasting state, and (3) the estimation of the excretion of vitamin C in the urine for 24 hours after the administration of a test dose of this substance (100 to 1,000 mg.) either by mouth or by vein. The amount of cevitamic acid in the blood and urine is largely dependent upon two factors, the quantity of vitamin C stored in the tissues of the body and the recent dietary intake. The determination of the amount of reduced cevitamic acid in the blood plasma is the best single test of the state of vitamin C nutrition. It indicates the immediate nutritive level in regard to vitamin C, but does not give a complete insight into the the extent of saturation of the tissues with this substance. The determination of the amount of cevitamic acid excreted in the urine during a 24-hour period, while somewhat informative, fails to give an adequate estimate of the degree of deficiency or saturation as there are wide variations in the normal individual. Furthermore, any test requiring a collection of urine for 24 hours involves the likelihood of loss of part of the specimen and the difficulty of preserving the urine against oxidation and hence loss of vitamin C. The test dose method, although yielding valuable information, requires collecting of urine for 24 hours and hence is subject to the above criticisms plus the fact that it is not applicable to ambulatory patients. Too small a test dose adds increased possibility of error due to the greater significance of reducing substances other than cevitamic acid in the urine and of the inherent error in end point determination. In order to find a procedure applicable to ambulatory patients, requiring only a few hours to perform, and avoiding a number of the difficulties previously indicated, this investigation was undertaken. Since our work was begun, Wright and his co-workers[5] have reported a short test to estimate vitamin C nutrition, namely the study of urinary excretion for five hours after giving 1,000 mg. of vitamin C by vein, and Ralli, Friedman and Kaslow[6] have suggested the use of a 3-hour urinary excretion test after giving 100 mg. of cevitamic acid intravenously.

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PROPOSED TEST OF VITAMIN C NUTRITION

As a result of our study, the following test is proposed for estimating the state of vitamin C nutrition. The amount of cevitamic acid excreted in the urine for six hours after administering a test dose of 600 mg. of vitamin C* by mouth is measured, or the level of reduced cevitamic acid in the blood is determined in the fasting state and at the end of one, three and six hours after the above test dose has been given. To check the validity of these procedures, this investigation included measurement of the output of vitamin C in the urine for 24 hours after giving the test dose.

METHODS

The urine was collected in tightly stoppered dark bottles, acidified with glacial acetic acid (10 per cent by volume) and kept in the ice box. Day specimens were analyzed at once. One cubic centimeter of urine was diluted with 10 c.c. of distilled water and titrated against a solution of 2-6-dichlorphenol-indophenol of such a concentration that 1 c.c. of the dye was equivalent to 0.02 mg. of cevitamic acid. The method of Farmer and Abt[7] was used to determine the amount of reduced cevitamic acid in the blood plasma. Blood was collected in oxalate tubes, centrifuged immediately and 2 c.c. of plasma transferred to another tube, to which was added 4 c.c. of distilled water and 4 c.c. of 5 per cent metaphosphoric acid. After again centrifuging, 2 c.c. of the supernatant fluid was titrated against a solution of 2-6-dichlorphenol-indophenol of such a concentration that 1 c.c. of the dye was equivalent to 0.01 mg. of cevitamic acid. A microburette reading to 0.01 c.c. was used in all titrations. The end point was considered to be the first pink color lasting 30 seconds. It is essential to determine a distilled water blank, subtracting this value from the burette readings, and to complete all titrations within two minutes.

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*The vitamin C used in this study was furnished by Hoffman-LaRoche, Inc., Nutley, New Jersey.

RESULTS

1. *Cevitamic Acid in the Urine*: There were 25 tests performed on 22 individuals, including three normal adults and 19 clinic and hospital patients. Eight of the subjects showed various chronic disease states unrelated to vitamin deficiency; six presented a psychoneurosis; two had pellagra; and three revealed evidence of multiple vitamin deficiency. A careful dietary history was elicited from each individual. The excretion of vitamin C in the urine for six hours and for 24 hours after giving the test dose of cevitamic acid was computed. When a large amount of vitamin C was excreted in 24 hours, the 6-hour output was also high, and vice versa. On an average, 68 per cent of the 24-hour output was excreted in the first six hours in normal, 44 per cent in deficient individuals. In general, there was a close correlation between the results obtained in this test and the previous dietary history regarding the intake of vitamin C, i.e., in instances where there had been an abundance of vitamin C in the diet there was a high excretion in the urine. The findings were divided into two groups depending on the amount of vitamin C excreted in 24 hours after the administration of 600 mg. of cevitamic acid (Table 1). Fourteen of the tests were considered to indicate deficiency, eleven a normal state of nutrition. The latter group includes tests obtained in three individuals who, when originally examined, were deficient in vitamin C, and who, when retested after treatment, gave normal findings. The criteria for normalcy and deficiency were based on the following observations: Harris and Ray and their co-workers[8,9] have stated that the minimal normal urinary excretion of vitamin C per day is 13 mg. and that after giving a test dose of 700 mg. by mouth, at least 50 mg. should be put out in the urine in the subsequent 24 hours. In the group designated as deficient, less than 15 mg. of cevitamic acid were excreted in 24 hours in spite of the vitamin administered, while in our group designated normal, 70 to 290 mg. were excreted. The highest output in the deficient group was 14 mg., the lowest in the normal group 70 mg. Van Eekelen[3] has stated that, as saturation of the body with vitamin C is approached, there is a sudden increase in the excretion in the urine. Another criterion of saturation proposed by a number of investigators[10,11,12] is the excretion in the urine in 24 hours of 20 to 40 per cent of the cevitamic acid administered. Seven individuals in the normal group satisfied this requirement, while the other "normals" excreted 12 per cent or more of the test dose in this period of time. In those who were deficient, less than three per cent of the test dose was excreted in 24 hours.

TABLE 1
CEVITAMIC ACID IN BLOOD AND URINE
(After a Test Dose of 600 mg.)

Urinary excretion (mg.)	Normal	Deficient
24-hour total	(11 tests)	(14 tests)
Range	70-291	1-14
Average	161.78	5.92
6-hour total		
Range	27-209	0.3-5
Average	96.84	2.34
Blood plasma. Reduced cevitamic acid mg./100 c.c.		
Fasting blood		
Range	0.43-1.98	0.04-0.52
Average	1.11	0.17
Highest Blood		
Range	1.74-2.99	0.12-1.71
Average	2.42	0.74

The actual output of cevitamic acid in six hours varied in the normal group from 48.5 to 209 mg., in the deficient group from 0.3 to 4.9 mg. The 6-hour excretion in individuals who were approaching saturation, i.e. who eliminated at least 20 per cent of the test dose in 24 hours, was 103 mg. or above. In two instances only a 6-hour test was performed. The results were included in the normal group although one patient, who had pellagra, was certainly borderline, excreting only 27 mg. in this period of time.

It appears that as much information can be obtained from examining the urine for a period of six hours after a test dose of cevitamic acid as for 24 hours. A tentative minimal normal 6-hour excretion might be placed at 50 mg. when a test dose of 600 mg. is given orally, while an excretion of 100 mg. or more might be considered to indicate beginning saturation.

2. *Cevitamic Acid in the Blood*: Examination of the blood (Table 1) showed a level of reduced cevitamic acid in the fasting state of 0.43 to 1.98 mg. per 100 c.c. in the group designated as normal, and of 0.04 to 0.52 mg. in

the group considered to be deficient as judged by excretion in the urine. The average concentration in the blood was 1.11 mg. per 100 c.c. in the normal group, 0.17 mg. per 100 c.c. in the deficient group. The minimum normal level in the fasting blood has been stated to be 0.65 to 0.75 mg. per 100 c.c.[5,13,14,15]. Only one individual who was considered to be normal showed less than this amount. There were six members of the deficient group in whom the cevitamic acid in the blood was less than 0.1 mg. per 100 c.c. Four of these exhibited clinical signs of vitamin deficiency.

After administering the test dose of cevitamic acid there was a rise in the amount present in the blood at the end of one hour. This rise was maintained and often a peak was reached at the end of three hours with a slight diminution at the end of six hours. The curve resembled that seen in a glucose tolerance test. In one instance there was a slight, and in three a significant, increase in the amount of vitamin C in the blood between the third and sixth hours after administration of the test dose of cevitamic acid. This might be explained either by slow absorption from the gastrointestinal tract or by a diminished excretion by the kidney due to renal damage. At the peak of the curve, the cevitamic acid in the blood in the normal individuals reached 1.7 to 2.9 mg. per 100 c.c. with an average of 2.4 mg., all but one person showing a rise to 2.0 mg. per 100 c.c. or more. In the patients with vitamin C deficiency, the highest level of cevitamic acid in the blood varied from 0.12 to 1.7 mg. per 100 c.c. with an average of 0.7 mg., only two individuals showing a rise above 1.1 mg. per 100 c.c. It is suggested that a fasting level of 0.7 mg. and a rise to 2.0 mg. per 100 c.c. or more after the test dose is indicative of normal vitamin C nutrition.

THE RENAL THRESHOLD OF VITAMIN C

A comparison of the findings obtained on examination of the blood and urine shows that a close relationship exists between the two. When the milligrams of vitamin C excreted per hour in the urine were plotted against the concentration of reduced cevitamic acid in the blood plasma during this period of time, it was found that when a certain level in the blood was reached (about 1.4 mg. per 100 c.c.), there began to be an increase in the output of cevitamic acid in the urine. Faulkner and Taylor [16] have reported similar findings, designating this concentration in the blood the "renal threshold of vitamin C."

RESPONSE OF VITAMIN C DEFICIENCY TO TREATMENT

A special study of three patients who showed an extreme deficiency in vitamin C was undertaken. One of them had pellagra with skin and gastrointestinal manifestations, one exhibited stomatitis, proctitis and vaginitis, and a third had a number of gastrointestinal complaints, including anorexia and indigestion. The diet in all three of these individuals had been almost devoid of vitamin C for several months. After a preliminary test, each of these patients was placed on 300 to 400 mg. of cevitamic acid daily for nine to 15 days, at which time a second test was performed. The original test showed the excretion of vitamin C in the urine for 24 hours, after 600 mg. of cevitamic acid had been given orally, to be 1.1 mg. to 3.4 mg., the 6-hour excretion 0.5 to 2.6 mg. The fasting blood contained from 0.05 to 0.09 mg. of reduced cevitamic acid per 100 c.c., rising to a peak of 0.12 to 0.5 mg. following the test dose. After the period during which vitamin supplement was administered, repetition of the test showed a 24-hour excretion in the urine of 70 to 291 mg. of vitamin C, and a 6-hour excretion of 50 to 180 mg. The fasting blood values had risen to measure from 0.98 to 1.98 mg. per 100 c.c., and after the test dose ranged from 2.18 to 2.60 mg. per 100 c.c. From a clinical standpoint the gastrointestinal symptoms had cleared up in one patient, the stomatitis, vaginitis and proctitis had disappeared in another, and the individual who had pellagra was markedly improved. Only the patient with pellagra received treatment other than the daily administration of cevitamic acid.

DISCUSSION

Of the two individuals included in this study who had pellagra, one was markedly deficient in vitamin C, and one was at the low limit of normal. A further study of the state of saturation of the tissues with vitamin C in this condition is being undertaken. It is suggested that when a deficiency in one vitamin exists, there may be concomitant deficiencies in other vitamins. Stomatitis, vaginitis, proctitis, gastrointestinal complaints and fatigability may be indications of a vitamin C deficiency and demand careful investigation. In the absence of facilities for quantitative estimations of cevitamic acid in the blood and urine, the capillary fragility test may give valuable information regarding vitamin C nutrition. According to Wright[5] an increase in capillary fragility is the first clinical evidence of scurvy.

SUMMARY

A marked depletion of the vitamin C content of the body may occur without evidence of scurvy and is often unrecognized. A rapid method for the determination of the state of vitamin C nutrition is described. From a series of tests on 22 individuals, it is concluded that vitamin C nutrition may be considered normal if: (1) the level of reduced cevitamic acid in the blood (fasting) is, at the minimum, 0.7 mg. per 100 c.c., increasing to 2 mg. or more in one to three hours after the oral administration of 600 mg. of cevitamic acid, or (2) if the output of vitamin C in the urine for six hours after the test dose is at least 50 mg. Either the blood or urine alone may be tested as the results are parallel. When the concentration of cevitamic acid in the blood reaches a certain height, about 1.4 mg. per 100 c.c., the amount excreted in the urine begins to increase. Of the 22 individuals tested, 17 of whom were apparently normal in regard to vitamin C nutrition, 14 showed a deficiency of cevitamic acid. The recognition of the frequency and importance of a deficiency in vitamin C should stimulate further study leading to better understanding of many pathologic states and the institution of more efficacious therapeutic procedures.

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DISCUSSION

Dr. John H. Musser (New Orleans): I might very well go back to a period some few years ago and discuss the beginning and the development of our knowledge of vitamins, but time is short, and I know that this section is some hours back on its schedule. I would like to point out, however, that ten years ago our knowledge of vitamins was virtually nil, and about all that was known of these hypothetical substances was that they were in foods. That is all we did know—very little. Thanks to the biochemists, our knowledge has gone forward in the last ten years by leaps and bounds. I think the importance of the discovery of cevitamic acid is obvious, particularly in its application to clinical medicine in the past few years.

Here needs to be stressed one or two things Doctor Goldsmith's paper brought out, which I think of great importance. The first is, recognizing that chronic deficiency states in adults are extremely common; we have here a method of determining whether or not such is the case in a specific patient. When you stop to think that in these subclinical—not the outstanding clinical cases of deficiency, but the subclinical states—the diagnosis is based largely on impressions. With the use of this particular examination Dr. Goldsmith sketched today, there is definite, positive information that this particular vitamin C at least is lacking from the diet. And, as she pointed out, when one vitamin is lacking very likely other vitamins will also be absent in quantities sufficient to produce clinical symptoms.

The other point I think important enough to be stressed is the application of this laboratory examination to the sick baby. I think it has opened up a field which I am sure the pediatrician will be glad to grasp and which he will take advantage of.

Dr. Robert A. Strong (New Orleans): Doctor Goldsmith has discussed a subject about which there is every reason to believe we shall hear considerably more in the next few years. There is a rapidly growing literature on the newly discovered functions of vitamin C, and if only a part proves to be correct, the value of cevitamic acid as a preventive and therapeutic agent will exceed anything that could be imagined five years ago.

The routine administration of orange juice or tomato juice to babies represents the earliest example of supplying a vitamin, and up to a short while ago it was believed that its only function was to prevent scurvy. However, when Dr. Albert Szent-Gyorgyi first isolated a substance from the suprarenal gland, which he designated as hexuronic acid, the name of which was changed by later workers to ascorbic acid and which is now called cevitamic acid, in compliance with the wish of the Counil on Pharmacy and Chemistry of the American Medical Association, he opened up a field of investigation which has already been replete with remarkable discoveries. I happen to know that Doctor Goldsmith is familiar with all of them, but in the short space of time allotted, she could discuss only a few.

Concerning infections, of which she spoke, the value of cevitamic acid can be no better exemplified than in the treatment of a particularly malignant type of diphtheria which has occurred in continental Europe, and which had failed to respond to antitoxin. An investigation to determine the potency of the available antitoxin revealed that it measured up to the usual standards. However, when cevitamic acid was administered in conjunction with it, the results were such as to bring forth the statement of one group of authors that "it was life saving." The other authors called attention to the fact that in Palestine, a tropical country where the diet of children is largely citrus fruits, it is recognized that diphtheria is extremely mild. Whether or not there is a connection between this use of citrus fruits and the mildness of diphtheria, is a matter of conjecture. Other authors have invited attention to the value of cevitamic acid in the treatment of arthritis, osteomyelitis, pertussis, and in many acute and chronic surgical infections. Surgeons have already used it to promote healing in aseptic wounds as well as infected wounds.

Dr. M. P. Boebinger (New Orleans): I am very happy to have heard this excellent paper. I too am very much interested in the use of vitamins, especially vitamin C. At the Baptist Hospital I am known as a staunch supporter of vitamin therapy. The use of large doses of vitamin C has given me excellent results in my practice. I give as much as a quart of orange juice in twelve hours, in mucous membrane cases, acute coryza, acute otitis media and sinus cases.

Vitamin C is one of the oldest and best known of vitamins for use in deficiency diseases. It was one of the first to be synthesized. While the physiologic action is little known, we do know that good results are obtained in all mucous membrane and scurvy cases, where large doses of vitamin C are given.

Dr. H. E. Menage (New Orleans): I am not a biochemist and probably not up to date on the complexity of the vitamins. I would like to know more definitely what the so-called "renal threshold" is? Where and what is the danger line in over vitaminizing patients? A few months ago I saw an overfat, few months old baby who was given, I believed, an unusually large amount of vitamins. The baby had a rather extensive dermatitis which at that time had not improved under any treatment. The vitamins were stopped and with no other treatment the eruption disappeared in a very short time. One case naturally means nothing except possibly that we have added to an already long list of causes another potential one in diseases of the skin in young children.

Dr. Grace A. Goldsmith (In conclusion): I want to thank the various doctors who have so kindly discussed my paper.

It appears probable that vitamin C will prove useful in the therapy of many conditions. In pneumonia, for example, good results have already been reported, and also, as Dr. Strong mentioned, in diphtheria. The frequency of a deficiency in this vitamin is high, so that every physician will encounter it at some time in his practice.

There is very little danger of giving too much vitamin C in contrast to the results of administering large quantities of some of the other vitamins. As much as 5 grams have been given in a single dose without untoward effects.

In regard to the renal threshold of cevitamic acid, the excretion by the kidney rises as the amount present in the blood increases. This prevents accumulation of excessive quantities in the body and acts as a safeguard against toxemia. As the body becomes saturated with vitamin C, more and more is put out in the urine, until practically 100 per cent of a test dose is excreted. Therefore, I do not think there is much likelihood of giving patients an overdose of cevitamic acid.

RUPTURED INTERVERTEBRAL DISK: A CAUSE OF SCIATIC PAIN*

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NEW ORLEANS

One of the most important developments in surgery during the past four years was the recognition of ruptured intervertebral disk as a cause of sciatic pain. This condition is found to be present in a high percentage of patients whose "sciatica" fails to respond to the usual therapeutic measures. [1, 2, 3]

ANATOMY AND PHYSIOLOGY OF THE INTERVERTEBRAL DISK

Each intervertebral disk is composed, at its circumference, of laminae of fibrocartilage forming the annulus fibrosus. The fibers of the laminae run obliquely between the vertebral bodies and are firmly attached to them. In the central part of the disk is the nucleus pulposus, a highly elastic, gelatinous substance. Interposed between the disk and the adjacent vertebrae are thin plates of hyaline cartilage. The nucleus pulposus, confined to its position by the annulus fibrosus and the cartilage plates, acts as a shock absorber and a hydrodynamic ball bearing for the spine. Under increased pressure the elastic nucleus pulposus becomes flatter and pushes the more resistant fibrous laminae outward in all directions.

ESCAPE OF THE NUCLEUS PULPOSUS

The nucleus pulposus is under constant pressure because it sustains the weight of the body. Jumping and lifting obviously put each nucleus under increased compression. In view of this fact it becomes obvious that the semifluid nucleus pulposus will escape from the disk if it can find a passageway[4]. Such an exit may be produced in the annulus fibrosus or in a cartilage plate as the result of trauma or local degeneration. In the case of the fissured cartilage plate, the nuclear material forces its way into the cancellous bone of the vertebral body. The invading substance then undergoes proliferation and finally results in a firm nodule of cartilage. These lesions of the vertebral body are called Schmorl nodes (fig. 1) and have long been familiar to the roentgenologist[5].

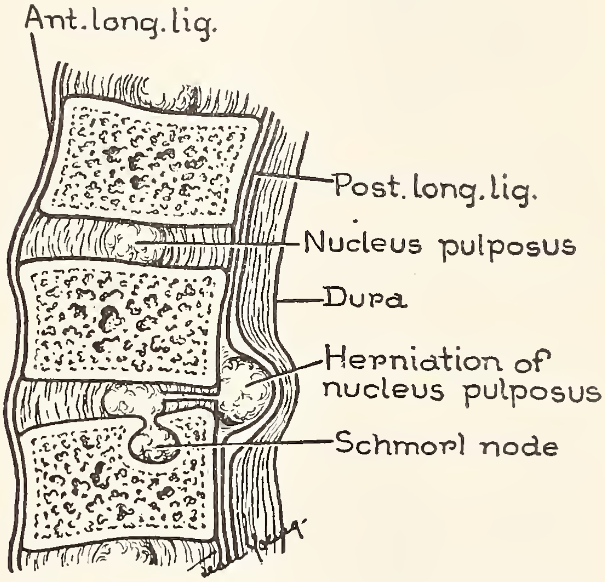

Fig. 1. From an actual case in which the nucleus pulposus escaped both into the body of the vertebra (as shown by x-ray) and into the spinal canal (as found at operation).

Of more significance is a fissure in the posterior part of the annulus fibrosus. This permits the nucleus pulposus to herniate into the spinal canal where it forms a swelling under the posterior longitudinal ligament, usually to one side of the midline (fig. 1). Parts of the annulus fibrosus may be extruded as well. Here, also, secondary changes occur and the displaced tissues become a firm nodule of cartilage. Such lesions can be found in 15 per cent of autopsies but most of them are too small to give symptoms.[6] If they are from ½ to 1½ cm. in diameter they may compress the spinal cord or the spinal nerve roots.

EXPLANATION OF SCIATIC PAIN

Disk nodules occurring in the cervical or thoracic portions of the spinal canal produce the symptoms of extradural tumor of the spinal cord. In the lumbar region, the disk nodule compresses or irritates one or more of the nerve roots composing the cauda equina. At first glance, one might be inclined to believe that a small disk nodule in the lumbar region would displace the dural sheath and enclosed cauda equina without producing symptoms. This would be the situation were it not for the fact that the nerve roots leaving the canal are firmly fixed. A nerve root is fixed at its exit from the dural sheath and it is fixed as it enters the intervertebral foramen. It is at or between these points that a disk nodule compresses and irritates a nerve root thus producing sciatic pain (fig. 2). Slight movements of this traumatized nerve root, such as are brought on by coughing, lifting, or "straight leg raising", result in exacerbation of the pain.

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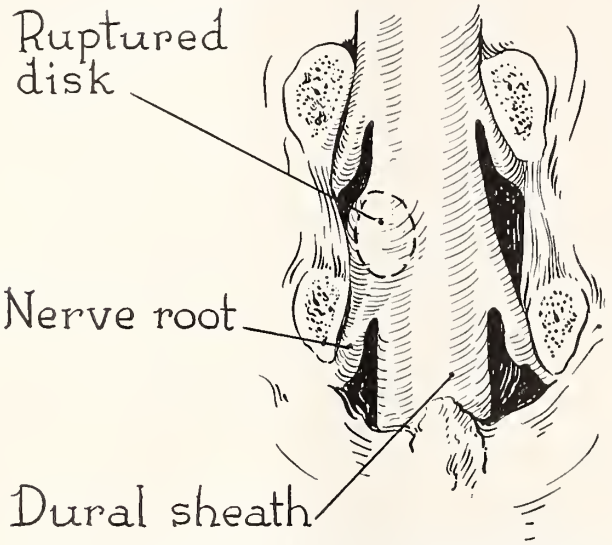

Fig. 2. Two laminae have been removed exposing the dural sheath and two pair of nerve roots (diagrammatic). The ruptured disk (dotted line) causes a distortion of the root which emerges at that level.

SIGNS AND SYMPTOMS

"Sciatic" pain may be cramping, aching, or shooting. It begins in the low back, usually a little to one side of the midline, and extends into the buttock, down the posterior aspect of the thigh, down the lateral aspect of the leg, and into the dorsum of the foot. The exact distribution of the pain varies somewhat with the nerve root affected. The pain may subside for long or short periods.

Muscle spasm is usually present in some degree. In typical cases the normal lumbar lordosis is lost and there is a list to the side of the lesion or away from it.

The neurologic findings are negligible or absent for the obvious reason that only one nerve root is being irritated. Sensory change is not present as a rule because of the overlapping of cutaneous nerves. It is necessary to cut three adjacent posterior roots in order to produce an area of anesthesia.[7] However, hyperesthesia may be present. Motor weakness is rarely demonstrable but the Achilles reflex is apt to be diminished or absent.

DIAGNOSIS

It will be seen from the discussion of signs and symptoms that "sciatica" due to a ruptured disk differs little if any from "sciatica" due to other causes. Roentgenograms of the spine and lumbar puncture are, of course, essential to an adequate study. Neither of these procedures, however, is of much assistance in making a diagnosis of ruptured disk. The spinal fluid in 75 per cent of the cases exhibits an increase in the total protein. There is no "spinal block."

The diagnosis can be positively established only by fluoroscopy following the injection of lipiodol (5 c.c.) into the subarachnoid space. The lesion produces a filling defect which is constant. The great majority of the nodules in the lumbar region are attached to the fourth or fifth intervertebral disks.

TREATMENT

The only proper treatment is laminectomy and excision of the disk nodule. Since the lesion is accurately localized by fluoroscopy it is not necessary to make a large opening into the spinal canal. If the lesion is placed far laterally it can be exposed by retracting the dural sac toward the opposite side. The posterior longitudinal ligament which holds the nodule in place is incised. The cartilage may be lifted out if unattached. If it is adherent to the disk it must be removed by sharp dissection. If the lesion is large and near the midline it is wise to approach it transdurally. In this case the fibers of the cauda equina are gently separated to expose the nodule. Black silk is used to close the dura as well as all other layers including the skin. Drainage is not needed. A plaster cast is not required because the back has not been materially weakened by the procedure. Almost invariably the "sciatica" is promptly relieved and does not recur.

COMMENT

I do not wish to create the impression that all "sciatica" is due to a ruptured intervertebral disk. It is not. Neither should every patient with "sciatica" be urged to have an intraspinal injection of lipiodol, innocuous as that procedure is now known to be. The case can perhaps best be stated this way: If a patient with chronic "sciatica" fails to get relief from the usual medical and orthopedic measures, ruptured intervertebral disk must be suspected and the proper investigations carried out. Operation at present is indicated only when the roentgenologist can demonstrate the lesion. Finally, I believe that ruptured intervertebral disk is the commonest single cause of "sciatica".

SUMMARY

1. Ruptured intervertebral disk is the commonest single cause of sciatic pain.
2. The fourth or fifth lumbar disks are involved in the great majority of cases.
3. A ruptured disk produces pain and the other manifestations of "sciatica" by compressing a nerve root in its course from the dural sheath to the intervertebral foramen.
4. The diagnosis can be made only by fluoroscopy following the injection of lipiodol into the subarachnoid space.
5. Laminectomy and excision of the protruding portion of the disk produces prompt and permanent relief.

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DISCUSSION

Dr. L. L. Cazenavette (New Orleans): I note that the doctor's remarks have been on the subject of "ruptured intervertebral disc as a cause of sciatic pain." We frequently meet patients who come to us because of pain in the region of distribution of the sciatic nerve and are very prone to diagnose these cases by the term of sciatica, which term has been used loosely to designate paroxysmal pain in the region of the sciatic nerve. In sciatica proper it is accepted that this pain comes on in paroxysms and is not accompanied by any symptoms denoting any condition with the nerves or spinal cord. As soon as we appreciate the presence of symptoms denoting organic conditions along the nerve roots or cord, then the case ceases to be one of sciatica and should be designated by whatever may be the pathologic processes present.

The point comes to my mind that it is necessary to watch these cases, so-called sciatica cases, for a fairly long period of time, in order to be able to determine whether there are any symptoms which denote real pathology in the nervous system itself.

I want to ask Dr. Echols what have been his observations in conditions which have been fairly well determined as sciatica and which have answered favorably to epidural injections of saline solution and tell us what has been his experience along that line. I ask that because in many instances with the diagnosis of pain in this region without organic conditions, we have used epidural injections with a great deal of success. In those cases where response was not as expected, we found some other conditions, usually a psychogenic factor, which came in as a part of the etiology in the case.

Dr. E. D. Fenner (New Orleans): I have listened with great a deal deal of interest to Dr. Echols' paper. Of course, all of us, who are interested in this type of work, have seen a good many or at least a number of articles discussing this condition and relating the effects of operation.

I confess that I have not, up to this time, found any cases myself of ruptured nucleus pulposus. I think there must be some among the more chronic of my cases that have this as a background, but I feel about this subject of the injection of lipiodol, which of course is the only way by which the diagnosis can be made with any positiveness at all, that it is still something that ought not to be done to everybody who has backache or pain in the sciatic nerve. I have not been able to convince myself that there is not an element of possible danger from injection of lipiodol and of course men are liable to get enthusiastic about a matter of this kind, so that I also have the fear that there are going to be a lot of laminectomies done where it is not necessary. I am sufficiently familiar with my own capacity for vision to feel sure that any fellow who does a laminectomy has to find the protruding disk. He is just bound to find it. I feel that everything else ought to be tried, particularly epidural injection of novocain, before laminectomy is undertaken. Some cases are undoubtedly due to the protruding discus pulposus. I cannot believe they are as common as some writers would lead us to believe. We ought to be careful before undertaking such a serious operation as laminectomy. I do not know what becomes of the laboring man who has his fourth and fifth vertebral arches removed. I feel that that fellow is bound to be less vigorous than he was before those bony arches were taken away. I think we ought to be careful that there is actually a spinal block before undertaking the operation.

Dr. Dean H. Echols (In closing): It is often impossible to distinguish clinically between cases of ruptured disk and cases of sciatic pain due to other causes. The pain of true sciatica, if such a thing exists, is indistinguishable from the pain produced by a lesion which irritates or compresses one of the roots of the cord. The absence of neurologic findings does not rule out a ruptured disk. The scarcity of neurologic signs is due to the fact that a ruptured disk only compresses a single nerve root. Even the cutting of a single nerve root does not produce an area of anesthesia. In fact, it is necessary to cut three consecutive roots to produce anesthesia. The Achilles reflex is often absent or diminished in these cases of ruptured disk. This may be the only evidence of organic involvement of the nervous system. A spinal block is not found in these cases.

I certainly agree with Dr. Fenner about the inadvisability of hurriedly injecting lipiodol into every patient who has sciatic pain. This should be done only after the conservative methods of treatment have failed to give relief.

It may be true that a laminectomy is not desirable for a working man who must do heavy lifting. However, laminectomy does not seriously weaken a back.

Laminectomies in this country are done at the rate of four or five hundred every year. I know of only two or three cases in which disability has resulted, i. e., a weak back. The beauty of the lesion under discussion is that it can be removed through a small laminectomy because it is so accurately localized by the x-ray.

A PREGNANT WOMAN WITH LOBAR PNEUMONIA, TYPE VIII, CURED BY SPECIFIC SERUM

J. H. MUSSER, M. D.
and
M. J. BOGGS, M. D.
New Orleans

The following case report is recounted because the response to therapy in a patient who had lobar pneumonia type VIII was so prompt and so spectacular that it is indicative of what can be accomplished by serum. The experiences with serum in the South have been few and far between but similar reports are being published constantly in the North with a large group of patients.

CASE REPORT

Mrs. C. W., a 19 year old woman seven months pregnant, was admitted to the Charity Hospital on September 26, 1938, extremely dyspneic and cyanotic, with a respiratory rate of 48, pulse rate of 132 and marked elevation of the temperature.

This young woman late on the night of September 24 developed a pain in her right side, had a severe chill with a high fever. The next day she began to expectorate blood tinged sputum. Admitted to the ward early in the morning of September 26 she had typical physical findings of a lobar pneumonia which was confirmed by x-ray examination. There was a total white count of 29,350,

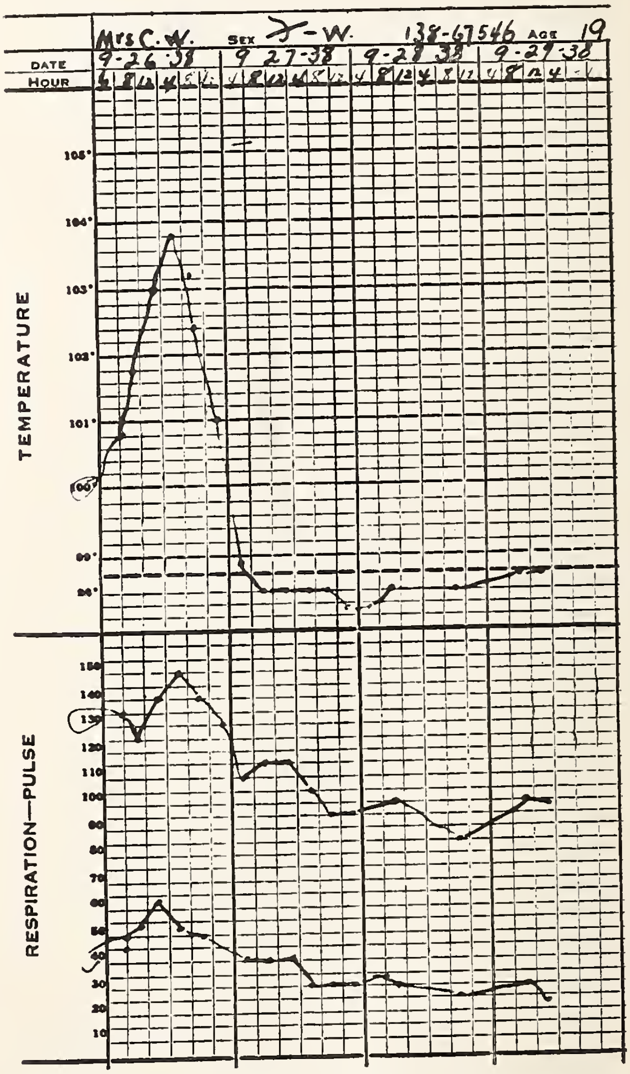

Fig. 1. Chart of patient showing the prompt drop in temperature, pulse and respiration following specific serum.

of which 94 per cent were polymorphonuclears.

The sputum was sent immediately to the laboratory for typing and promptly reported back that it was type VIII pneumococci by the Neufeld technic. There was some delay in securing anti-pneumococci serum but by noon this was available. The patient was tested for sensitivity by the conjunctival method and the reaction was negative. She was then given 10,000 units type VIII pneumococci serum prepared from rabbits' serum, two hours later she was given 40,000 units intravenously, four hours later given 40,000 units; this was repeated in another four hours. The following morning temperature had come to normal, her extreme cyanosis and dyspnea, which required oxygen, had disappeared and five days later she was discharged from the hospital at her request because she was entirely well.

SUMMARY

This patient presents a splendid example of the results that may be obtained by the early use of specific serum in the treatment of pneumonia. Not only was the life of the young woman undoubtedly saved but also that of her unborn child.

NOTICE

BE SURE TO READ THE SPECIAL SUPPLEMENT AT THE END OF THIS NUMBER OF THE JOURNAL.

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THE PHYSICIAN AND THE FARM SECURITY ADMINISTRATION

It is extremely important that the members of the State Medical Society study the medical care program for Farm Security Administration families which will be found as a supplement in the very last section of the Journal. Wisely the Farm Security Administration has recognized that their responsibility begins with the health of the farmer. It is utterly impossible to expect a man sick and ailing, or partially disabled from some remedial cause to be able to operate a farm with the hard physical work that is necessary to till the soil. As pointed out by Dr. Williams it is essential that the families be kept in reasonably good physical condition. The word families is used advisedly because on a farm every one must do his share of work if the farming is to be a success.

Throughout the state there are more than 9000 clients of the Farm Security Administration which number will be increased materially in the next few months. Taking cognizance of the importance of medical care of these people of the FSA, their representatives met with the executives of the State Medical Society on October 11. Permission was given by the Executive Committee for the representatives of the FSA to discuss with the various parish medical societies throughout the state the plan for taking care of the poor people in the parish as it applied to each individual parish unit of the state.

It would seem from a perusal of copy of the suggested understanding between the physicians of any parish and the FSA that a very fair, just and equitable arrangement is being presented to the members of the State Medical Society. The choice of physician is permitted, the scale of charges is that which is a standard for the usual professional charges for a people of moderate means. Funds of between 15 and 30 dollars per family will be available to pay the doctor. This represents roughly about 200,000 dollars which would be distributed to the physicians for services rendered to a group of people from whom undoubtedly the physician has never before received compensation. The arrangement as far as can be judged is not bound by red tape and, what is extremely important, is to be conducted in conjunction with committees from the several parish medical societies.

Dr. O'Hara, the President of the State Medical Society, points out in his letter to Dr. Williams, a copy of which is included in the report, that the family has a free choice of physician and, second, that the plan provides for action by the medical society as a parish unit and as a state whole. These two desiderata are the fundamental basic points which the medical profession is insisting upon in regard to insurance schemes and the like. The medical profession has no objection to the Government helping the man economically below a level which does not permit payment to the physician for his services. Governmental agencies have, for an untold number of years, taken charge and taken care of the poor of the community who have become ill as result of serious disease. The Charity Hospital has functioned for a century and a half; other state hospitals and county and municipal hospitals such as Bellevue and Cook County have been doing the same for many generations. These institutions supply only services to the severely ill. There are an enormous number of people in this country who are not eligible for services in state hospitals but who need medical care. If and when the Government can arrange to take care of these people in a manner which will permit the medical profession to maintain its identity as a profession, if it will permit the maintenance of the patient-physician relation which has existed from time immemorial and if it will give the physicians a fair representation in the distribution of funds, then will the medical man welcome Governmental succor to the poor.

Dr. O'Hara and the members of the Executive Committee of the State Medical Society are to be congratulated on obtaining for the physicians of the state an arrangement which seems to be eminently fair and just. Dr. Williams is likewise to be felicitated upon his frank recognition of the fact that the medical profession should be paramount in any arrangement which has to do with the sick man or woman and his or her care.

TO THE SECRETARIES OF THE DISTRICT AND PARISH MEDICAL SOCIETIES

About two weeks ago a letter was sent out from the editorial office of the Journal to the secretaries of all parish and district medical societies in the state. In this letter was a request that they supply the editor with news about their meetings and about what was going on in their particular society. So far this request has been responded to by one secretary. Again the editor respectfully asks that the secretaries inform him of the date of the meeting, of the speaker and any other activities which may be of general interest to the readers throughout the state.

The Journal Committee is particularly anxious to publish each month a calendar of the meetings throughout the year. The Committee believes that this would be a great advantage to the constituent members of the State Society and it should be a great help to the secretaries themselves. If the date of the meeting is published a month or two to three months ahead of time, this will be a reminder that the meeting is to be held as well as when and where it is to take place. The calendar, if the secretary will cooperate, will contain a list of the meetings throughout the year. Thus, Blank Parish Society will meet on such and such a date in December, February and March; or, Blank District Society will hold its meeting on the second Wednesday of the first and fourth months of the year. This information will be of value not only to the members of the constituent parish societies, but to the men who live in neighboring parishes, or elsewhere in the state. They may want to attend one of the meetings and, if the date is set down, they are more likely to do so, than if they have to write or telephone to find out when and where it is.

Again we reiterate, will not the secretaries of the constituent parish and district medical societies help in making their Journal a more valuable instrument of publicity than it now is?

THE TREATMENT OF PNEUMONIA

In another portion of the Journal there will be seen a very brief case report of a pregnant woman in whom lobar pneumonia was cured following the use of specific serum. This case report was merely recorded as an example of what may be done with patients who have certain types of this disease.

Specific serum in the treatment of pneumonia has not obtained the popularity that it should in the far South. One of the difficulties has been the prompt typing of a patient's sputum and the other has been the expense and cost and difficulty of obtaining the specific serum. In the states where pneumonia is more prevalent than in the South the results that have been obtained by serum treatment have been spectacular. In type I pneumonia without serum roughly the deaths will be about 30 per cent, with serum 10 per cent. In type II pneumonia the percentage respectively is 40 and 20, and in type V the death rate of those untreated with serum is the same as in type I, the mortality however in the treated cases is somewhat higher, namely 15 per cent. In types VII and VIII pneumonia the death rate of treated patients is somewhat less than one-half the figures of those who are untreated. These figures apply to the patients who are treated immediately or soon after the onset. There is a gradual increase in the death rate which becomes most marked after the third day, so if serum is given after the fifth day of the disease the mortality rate in type I pneumonia of 32 per cent can be expected as invariably as if serum has not been given.

Of the two reasons why antiserum has not been used more generally in the South, that of expense is important. It should be borne in mind that the expense of serum administration is no more than is an operation for an acute appendicitis. No one would hesitate to operate in the presence of signs and symptoms of an acute appendicitis because of the expense involved. It is equally reasonable to disregard expense in the serum treatment of pneumonia. If the serum is not available for the treatment of the poor man without funds, then it should be made available somewhere for him. In so far as the typing of sputum goes every hospital should have the test antisera in order to type sputum. The State Board of Health should have not only the material but the personnel to make a prompt and immediate diagnosis of the type of pneumonia the patient may present. With hospitals scattered all over the state, with good roads, it is only a question of getting the sputum in a few hours to a place where it could be typed. Furthermore, the big drug firms are now carrying antiserum which, incidentally, was not true a few months ago.

The death rate in pneumonia is higher in some of the southern states than it is in the North. The death rate of pneumonia in Louisiana is in the median group. From 85 to 115 people per 100,000 population have died of this disease in a period between 1931-1935. Many of these thousands of deaths might have been obviated with the prompt typing of the sputum and administration of serum for the five types, I, II, V, VII and VIII for which it is available. Pneumonia is a common disease. It ranks usually about fifth or sixth in the list of reportable diseases during the winter months. We cannot afford to neglect diagnosing early and treating promptly the patients who have pneumonia.

NEONATAL MORTALITY

The Chicago Board of Health has for the past three years been carrying on intensive studies to find out what factors are responsible for neonatal deaths. This has been done for the purpose of securing data which might ultimately be used in reducing the death rate of infants during their first two weeks of life and, particularly, during the first day of life.

A preliminary report of this study was made in 1936-1937. Now there appears a new report[1] which details methods of investigation and arrives at some conclusions concerning the death that takes place in the newborn babe. Of the five major causes of death, intracranial hemorrhage leads all others with a total of 237 in Chicago in the years 1936-1937. Congenital malformations are next in number and then follow pneumonia, with 48 deaths, asphyxia with 65, and then 362 deaths by causes undetermined and without demonstrable pathologic lesions other than atelectasis. In this latter group are found children who died as a result of (a) prematurity, (b) complications of pregnancy, (c) breech presentation and (d) multiple births. Among the complications of pregnancy most often leading to prematurity are (1) toxemia, (2) external violence, such as accidents to the mother, (3) placenta previa, and (4) undetermined causes.

The chief factors responsible for intracranial hemorrhage are (1) operative procedures, (2) breech presentation, (3) complications of labor, accompanied by operative procedures, and (4) primiparity. In so far as pneumonia is concerned, the following factors are of particular importance: (1) complications of labor and pregnancy, and (2) prematurity. Asphyxia is most likely to be caused by (1) breech presentation, (2) use of analgesics, and (3) operative procedures because of fetal or maternal disproportion.

In summarizing this material, Bundesen, President of the Chicago Board of Health, expresses the opinion that many of the factors which contribute to the death of children under two weeks of age "may be controlled by the knowledge now available." Improved antepartum and postpartum obstetric care, better hospital nursery care, the avoidance of dangerous procedures and unwise employment of drugs, use of measures to lengthen pregnancy to term, such as progestin and vitamin E, the employment of all these measures, if judicious and properly carried out, could occasion a definite reduction in neonatal mortality.

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HOSPITAL STAFF TRANSACTIONS AND CLINICAL MEETINGS

NORTH LOUISIANA SANITARIUM

The regular meeting of the North Louisiana Staff was called to order by the President, Dr. Gowen, at 8 o'clock on June 28, 1938 with thirty members present. There being no committee reports, the hospital report was read and the deaths discussed.

SCIENTIFIC PROGRAM

Dr. Hargrove presented the report of a study of coronary disease in thirty males and seven females. This report included discussion of the symptoms, the type of occlusion, whether anterior or posterior, the age at which attacks were begun and the number of attacks until death, the outcome of all cases, the cause of death in each case, the time of occurrence, the irregularities of the heart, and blood counts in each case. The presentation was discussed by Drs. Herold, Cassity, Smith and Mathews.

Dr. Abramson reported a case of so-called false aneurysm, illustrated by lantern slides, which was discussed by Dr. Crain.

Dr. Crain presented the case of a S. hemolyticus infection treated with prontylin and prontosil, administered in large doses. The patient did not respond and the outcome was fatal.

N. Judson Bender, M. D., Sec.

NORTH LOUISIANA SANITARIUM

In the absence of both the President and Vice-president, the first regular meeting of the North Louisiana Staff since June 28 was called to order by Dr. Heard, on September 27, 1938 at 8 p. m., with thirty-two members present.

Dr. Abramson reported that the operating rooms were being air-conditioned. Dr. C. R. Reed was unanimously elected to membership on the staff.

SCIENTIFIC PROGRAM

Dr. Mathews presided at a clinico-pathologic conference. The clinical data were presented and discussion was opened by Dr. Hargrove. The case was further discussed by Drs. Cassity, Wolfe, Richardson, Blandino, Rigby, Sanderson, and Shavin. Dr. Mathews then presented the autopsy findings and demonstrated the pathologic specimens in the gross and the specific microscopic lesions by lantern slides.

Dr. Stamper presented the case of a difficult, but successful repair of an urethral fistula. Immediately after repair, the wound broke down and it appeared as though the whole operative site would slough out. Subsequently, however, there was complete healing with the establishment of the normal urethral channel. Dr. Stamper's interesting case was discussed by Drs. Scales, Youman, Rigby, and J. M. Gorton.

N. Judson Bender, M. D., Sec.

HIGHLAND SANITARIUM

The Staff of the Highland Sanitarium held its regular meeting in the Clinic Building, on September 15, 1938.

Dr. H. W. Boggs discussed the treatment of gastric and duodenal ulcers with feedings through the duodenal tube and reported two very interesting cases. This paper was discussed by Drs. W. R. Mathews, T. P. Lloyd and C. P. Rutledge.

Dr. W. F. Drummond reported two cases of carcinoma of the head of the pancreas with management. This report was discussed by Drs. H. M. Prothro, W. R. Mathews, C. P. Rutledge and J. A. Hendrick, Jr.

Dr. Dean H. Duncan gave a very interesting talk regarding a recent visit to the Alcatraz prison off the Pacific coast. His impression was that it is much more difficult to get into this prison than to get out. He was impressed with the thoroughness with which the visitors were searched and the solitude of the prison. He also reported on the high lights of the Neuro-Psychiatric Section of the American Medical Association which met in San Francisco in May. In addition to this he reviewed two very interesting cases of brain tumor. These cases were discussed by Drs. W. S. Harmon and W. R. Mathews.

C. P. Rutledge, M. D.,
Acting Secretary

J. T. NIX CLINIC
New Orleans

At the meeting held in October Doctor J. M. Perret presented the following paper:

PRIMARY CARCINOMA OF THE LIVER: REPORT OF THREE CASES

Primary neoplasms of the liver are rare. Primary carcinoma is rare and primary sarcoma is rarer. Jaffé[1] in 1924 was of the opinion that only 48 cases of unquestionable primary sarcoma of the liver had been reported.

Secondary neoplasms of the liver are common, about 50 times as frequent as the primary type, and develop in about 50 per cent of all victims of cancer.

Only a few statistics will be reviewed to give some idea of the incidence of primary carcinoma of the liver. Counseller and McIndoe,[2] in a collected series of 42,276 autopsies, found an incidence of 0.14 per cent. Kelsch and Kiener,[3] in 1876, reported two cases and found only one other positive case. Sabourrin,[4] in 1881, added four cases. Eggel,[5] in 1901, collected 163 cases. This to date is the largest single collected report. Allbutt and Rolleston,[6] in 1908, found 24 cases in 18,500 autopsies. Goldzieher and von Bokay,[7] in 1911, found 18 cases in 6,000 autopsies. Winternitz,[8] in 1916, at Johns Hopkins Hospital, found three cases in 3,700 autopsies. Wheeler,[9] in 1909, reporting from Guy's Hospital, found 15 cases in 5,233 autopsies. Griffith,[10] in 1918, found 57 cases in children under the age of sixteen years. Périe,[11] in 1921, at the South African Institute for Medical Research, found 55 cases in 3,900 routine tissue specimens. Clawson and Cabot,[12] in 1923, found one case in 5,100 autopsies at the University of Minnesota. Fried,[3] in 1924, says that up to that time only one case had been found at the Harvard Medical School. Von Glahn and Lamb,[13] found six cases in 1,800 autopsies at the Presbyterian Hospital, New York. Rowen and Mallory,[14] in 1925, found nine cases in 6,506 autopsies. Ophiils,[15] in 1926, found 13 cases in 3,000 autopsies, 3.3 per cent of all his cases of carcinoma. Counseller and McIndoe of the Mayo Clinic in 1926 found five cases in 5,796 autopsies. Smith,[17] in 1926, found 12 cases in 872 autopsies in the Philippine Islands. Strong and Pitts,[18] in 1930, found nine cases in 1,024 autopsies from the Vancouver General Hospital. Brines,[19] in 1932, found eight cases in 1,087 autopsies from the Receiving Hospital in Detroit. After this paper had been read and before its publication a year later, three additional cases were found at autopsy. MacCallum[20] of Johns Hopkins Hospital up to 1932 had seen nine cases.

Race. The disease is much more common in the Oriental and African races than in the white race. Of the nine cases of Strong and Pitts[18] at the Vancouver General Hospital eight were Chinese. In 1931[21] they added three more cases: two Chinese, one white. They were struck by the large incidence of cases occurring in the Chinese. Investigation showed that the part of China from which these patients had come had a population infested 100 per cent with intestinal parasites; the most common one being the liver fluke, Clonorchis sinensis. They therefore believe that the parasites are causative factors in the malignancy. Four of Ophiil's 13 cases occurred in Chinese. DeVogel[22] relates that in the Dutch East Indies, from 1921 to 1927, 8,679 male Chinese were treated and that among these, 61 cases of malignant tumors were found; 48 of these were cancerous and of these, 22 were primary liver cancers. Dormanns[23] found primary liver carcinomas much more common in the Chinese and Malays than among Europeans. He blames this on infection with Distoma hepaticum. Bablet, Guillerm and Pham van Lu[14] found the disease much more frequent in Cochin China than in Europe. Although the African native is seldom affected with malignant disease, primary carcinoma of the liver was the most common tumor in them and Périe[11] reports that this diagnosis had been made in 52 cases out of 3,900 routine tissue examinations.

Sex. The disease is much more frequent in males: six males to one female in the Presbyterian Hospital series, according to Stout.[25] Our three cases were males.

Age. The condition occurs usually between the ages of fifty and seventy years but it may be found in children and even in infants. Griffith,[10] as has been previously mentioned, in 1918 found 57 cases in children under sixteen years. Nicolaysen[26] found a case in a child of twenty months; Rosenbusch,[27] in an infant nine months; Mikula and Klein,[28] in an infant one month.

Origin. Primary carcinoma of the liver may be derived from: (a) parenchymal cells and from solid parenchymatous tumors of hepatomas, or from (b) bile duct epithelium and from the glandular type of cholangioma. The majority of neoplasms seem to arise from the parenchyma. Most authorities believe that primary carcinoma of the liver is of multicentric rather than of unicentric origin.

The association of primary liver carcinoma with cirrhosis of the liver is very close. Ninety per cent of these carcinomas is associated with atrophic cirrhosis.[29] Counseller and McIndoe consider it probable that carcinoma arises in 3 to 4 per cent of portal cirrhosis cases. Metastases[20] are not very frequent but occur in 25 to 40 per cent of autopsies. The most common metastases are to the lymph nodes and lungs but may also occur in the bones, colon, pancreas, ovaries, kidneys, omentum, thyroid and brain.

Clinical Course. There is nothing typical in the clinical course. The onset is insidious. There is loss of appetite and there may be pains in the right upper abdominal quadrant. There is weakness, loss of weight, secondary anemia, irregular fever—symptoms which may be caused by malignancy occurring anywhere in the body. Given a case presenting the symptoms and signs of cirrhosis of the liver, we must think of the possibility of primary liver cancer. Jaundice and ascites are the signs that will direct our attention to the liver. Jaundice occurs in 50 to 61 per cent of the cases. It is usually due to the pressure of cancerous nodules upon the intrahepatic bile ducts but may be caused by the pressure of enlarged glands on the larger ducts.

Ascites occurs in about 58 per cent of the cases. It is due to pressure on the portal vein by tumor nodules, to an associated hepatic cirrhosis, to perihepatitis or to extension of the growth to the peritoneum.

Towards the end of the disease, the liver may be enormously enlarged and hardened; nodular masses may then be felt.

Duration of the disease is usually rapid, a fatal termination ensuing about twelve months after enlargement of the liver has been noted or in about three to six months after ascites and jaundice have appeared. Von Glahn and Lamb[13] reported a case that terminated in nine weeks. Johnson[30] reports an unusual case which lasted thirteen years.

Diagnosis. This is very difficult and it is rare that a positive diagnosis can be made from the clinical examination. The earlier the case is, the harder it is to make the diagnosis. A positive diagnosis is usually made at operation or at autopsy. When a tumor of the liver can be palpated and when clinical and radiologic examination fail to reveal malignant involvement of any other part of the body, and when syphilis has been excluded, the diagnosis of primary neoplasm of the liver is strongly to be suspected, and in such a case an exploratory operation is advisable and justifiable, as it may be possible to remove the tumor.

Ehrlich and Ansanelli[31] report a case in which the diagnosis was made by hepatosplenography, using thorium dioxide. The diagnosis was proved at autopsy. The use of thorium dioxide as a diagnostic and aid may not at this time be safe enough to be recommended indiscriminately.

Treatment. Unfortunately the treatment in the vast majority of cases is palliative because early diagnosis is so difficult. Deep x-ray therapy and radium are used for temporary relief.

Nicod and Paschoud[32] resected the right lobe of the liver and gallbladder for primary cancer in a patient of fifty-six years. The segment resected measured 5.2 by 3.6 by 2.8 inches. Fifteen months after operation the patient was still well.

(To be continued in a later issue)

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TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR

November 1.	Eye, Ear, Nose and Throat Hospital Staff, 8 p. m.
November 2.	Radio Talk, Orleans Parish Medical Society, 8:45 to 9 a. m., WDSU.
November 2.	Clinico-pathologic Conference Charity Hospital and L. S. U. Medical Center, 2 p. m.
November 2.	Hutchinson Memorial Staff, 8 p. m.
November 2.	Mercy Hospital Staff, 8 p. m.
November 3.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
November 7.	Board of Directors, Orleans Parish Medical Society, 8 p. m.
November 9.	Radio Talk, Orleans Parish Medical Society, 8:45 to 9 a. m., WDSU.
November 9.	Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
November 9.	Touro Infirmary Staff, 8 p. m.
November 11.	French Hospital Staff, 8 p. m.
November 14.	ORLEANS PARISH MEDICAL SOCIETY, 8 p. m.
November 15.	Charity Hospital Medical Staff, 8 p. m.
November 16.	Radio Talk, Orleans Parish Medical Society, 8:45 to 9 a. m., WDSU.
November 16.	Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
November 16.	Charity Hospital Surgical Staff, 8 p. m.
November 17.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
November 17.	Eye, Ear, Nose and Throat Club, 8 p. m.
November 18.	I. C. R. R. Hospital Staff, 12 noon.
November 18.	New Orleans Dispensary Staff, 8. p. m.
November 21.	Hotel Dieu Staff, 8 p. m.
November 22.	Baptist Hospital Staff, 8. p. m.
November 23.	Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
November 24.	Clinico-patholigic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
November 25.	L. S. U. Faculty Club, 8 p. m.
November 28.	ORLEANS PARISH MEDICAL SOCIETY, 8 p. m. Election of delegates to the Louisiana State Medical Society and nomination of officers for 1939.
November 30.	Radio Talk, Orleans Parish Medical Society, 8:45 to 9 a. m., WDSU.
November 30.	Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.

During the month of October the Society held two meetings. Monday, October 10, a joint scientific and third quarterly executive meeting was held. The following program was presented:

Report on the May, 1938, Meeting of the International Congress of Gynecology and Obstetrics Held in Amsterdam, Holland (Moving pictures)
By: Dr. George A. Mayer

The Analysis of the History in the Diagnosis of Gastric Disease
By: Dr. Oscar W. Bethea

Discussed by Drs. Daniel N. Silverman and A. L. Levin; closed by Dr. Bethea.

Gastroscopy
By: Dr. Donovan C. Browne

Discussed by Drs. John H. Musser and A. L. Levin; closed by Dr. Browne.

Reports of officers and committees for the third quarter were read.

Dr. Lyons made a statement to the membership regarding the activities of a special committee to consider medical care for the so-called low income group. Dr. Chaille Jamison, chairman of this committee, made a verbal report to the Society. A detailed report will be made at a later date.

At the scientific meeting held October 24, the following program was presented:

Some Observations on the Influence and Effects of Toxemias Upon Menstruation
By:............Dr. Lucien A. LeDoux
Treatment of Advanced Carcinoma of the Cervix
By:............Dr. Leon J. Menville
Discussed by Dr. Conrad G. Collins.
Congenital Cystic Lung Disease
By:............Drs. Robert H. Bayley and David E. Fader.
Discussed by Dr. Oscar Blitz.

NEWS ITEMS

The following doctors were elected to membership in the Society:

Active: Drs. George M. Genet, Irving J. Glassberg, William H. Meade, and C. Herman Weinberg. Dr. Philip Montelepre was reinstated to Active Membership. Drs. Joseph E. Blum, Jr., Warren H. Hebert, John S. Herring, Joseph D. Landry, and Gordon McHardy transferred from Associate to Active Membership.

Intern: Drs. Louis B. Arnoldi, Wendell H. Cook, Frederick A. Eigenbrod, John D. Jerabeck, James R. Riley, Joseph P. Riley, Jr., Joseph D. Russ, Celso C. Stapp, George E. Thomas, and Frank M. Townsend.

Two members of the Society resigned recently, Dr. Charles F. Craig because of removal to San Antonio, Texas, and Dr. Esdras J. Lanois, Lieutenant Commander (MC) U. S. Navy, who was transferred to U. S. S. Holland, submarine tender on the West Coast.

It is with regret that we report the loss by death of two active members, Drs. Lionel L. Cazenavette and Albert S. Yenni.

Drs. Henry B. Alsobrook, John T. Sanders and Earl C. Smith visited the Mayo Clinic and attended the Central Association of Gynecologists and Obstetricians at the tenth annual meeting in Minneapolis, October 6-8. Clinics were held for the attending members at the Mayo Foundation by Drs. Randall and Counseller. Dr. Thomas B. Sellers was elected vice-president for the coming year.

Drs. Walter J. Otis, William H. Perkins and Theodore A. Watters participated in the program of the Institute of Family Relations, October 6.

Dr. John T. O'Ferrall attended the meeting of the Clinical Orthopedic Society in Nashville, October 7, and Birmingham, October 8, and, on October 13, read a paper before the East Mississippi Medical Society in Meridian.

The following members attended the meeting of the American Academy of Otolaryngology at Washington, D. C., October 9-14: Drs. Cuthbert J. Brown, Wiley R. Buffington, William B. Clark, Val H. Fuchs, Mercer G. Lynch, Monte F. Meyer, George J. Taquino, William A. Wagner, E. Garland Walls, David R. Womack, and C. Spencer Wood.

At the meeting of the Southern Psychiatric Association in Atlanta, October 10-11, were Drs. L. L. Cazenavette, E. McC. Connely, L. A. Golden, W. J. Otis and H. R. Unsworth. Dr. C. S. Holbrook was installed as president.

Dr. Neal Owens presented a paper at the meeting of the East Mississippi Medical Society, October 12, at Meridian.

Dr. T. A. Watters attended the meetings of the Central Neuropsychiatric Association at Minneapolis, and the Southern Psychiatric Association, October 10, at Atlanta.

Those attending the meeting of the American College of Surgeons in New York, October 17-21, were Drs. L. Sidney Charbonnet, Jr., Isidore Cohn, William H. Meade, Alton Ochsner, Charles B. Odom and Roy W. Wright.

Dr. Georgianna von Langermann was one of the medical examiners of the entering students of the Mississippi State College for Women in Columbus.

Dr. Dean Echols, President of the American Academy of Nerve Surgery, read a paper before their meeting, October 28-29, in Cincinnati, Ohio.

TREASURER'S REPORT

Actual book balance August 31, 1938:	$3,990.57
Credits:	$ 143.59
Total credits:	$4,134.16
Expenditures:	$ 388.57
Actual book balance September 30, 1938	$3,745.59

LIBRARIAN'S REPORT

During the vacation months, July-September, 166 volumes have been added to the Library. Of these 64 were received by gift, 2 by purchase, 39 by binding and 61 from the New Orleans Medical and Surgical Journal. A list of titles of recent date accompanies this report.

The Library has loaned to doctors, during these months, 2,307 volumes, or more than four to each member of the Society. In addition 671 volumes have been loaned to students, bringing the total circulation to 2,987. This is a twenty-five per cent increase over the same months for 1937, and is an admirable showing for the summer season.

On request of physicians, members of the staff have collected material for the following subjects:

Cancer of the thyroid
Thyroglossal cyst
Congo red as a hemostatic agent
Gastric acidity
First aid in traffic accidents
Symptoms and treatment of pin worm infestation
Treatment of Trichomonas infection of the bladder
Epistaxis
Control and prevention of tuberculosis
Aural vertigo
Superphosphates
Dementia praecox: treatment, statistics and prognosis
Pellegrini-Stieda disease
Metrazol
Gastroscopy
Emergency thyroidectomy
Treatment of varicose veins
Tonsillar and rheumatic fever

During the summer plans for the extension of a package library service to the doctors outside of New Orleans have been formulated. Approximately 2,000 return postal cards were mailed on September 20 announcing the contemplated plan for an out-of-town membership in the Library. Within the ensuing ten days, 332 of the cards have been returned indicating a real interest in our project. Form letters, giving full details and applications for membership have been mailed to these doctors, and the signed applications with accompanying checks have started to come in. The Library staff has been working to build a subject file of reprints, from 1930 to date, for use in this out-of-town service. Already 5,700 reprints are classified for immediate use in our file. Each month the best articles in current journals are being checked and cards asking for reprints of these chosen papers are mailed to the authors. Generous response is being made to these requests. It will readily be seen that, within a year or so, an invaluable collection in reprint form will be at hand for package library use. The utilization of reprints for out-of-town loan has the double advantage of keeping transportation cost at a minimum for the borrower and holding the bound volumes for the use of New Orleans physicians.

Particular mention should be made of the gift library of our former President, Dr. Frederick L. Fenno, totalling some 620 volumes. The Society is very grateful to Mrs. Fenno, for her thoughtfulness in placing Dr. Fenno's books where they will be at the disposal of the entire medical community.

NEW BOOKS

Jones, Ernest: Papers on psychoanalysis, 1938.

Stitt, E. R.: Practical bacteriology, hematology and animal parasites, 1938.

Henry, G. W.: Essentials of psychiatry, 1938.

Bethea, O. W.: Materia medica, 1938.

International Medical Annual, 1938.

Kracke, R. R.: Textbook of clinical pathology, 1938.

A. M. A.: New and non official remedies, 1938.

A. M. A.: Reprints of reports of the Council on Pharmacy and Chemistry, 1938.

Rockefeller Foundation: Annual report, 1937.

Stanton, A. T.: Melioidosis, 1932.

Anigstein, Ludwik: Researches on tropical typhus, 1938.

Stallybrass, C. O.: Principles of epidemiology, 1931.

Association of Life-Insurance Presidents proceedings, 1936.

American Association of Genito-urinary Surgeons transactions, 1932.

Petersen, W. F.: Patient and the weather, vol. 4, 1937.

A. M. A.: American Medical Directory, 1938.

Mellon, R. R.: Sulfanilamide therapy of bacterial infections, 1938.

McBride, E. D.: Crippled children, 1937.

McMurray, T. P.: Practice of orthopedic surgery, 1937.

Bick, E. M.: Source book of orthopedics, 1937.

Smith, N. R.: Elements of orthopedic surgery, 1937.

Albee, F. H.: Injuries and diseases of the hip, 1937.

Porter, Langley: Management of the sick infant and child, 1938.

Pritchard, Eric: The infant, 1938.

Underwood, E. A.: Manual of tuberculosis, 1938.

Osgood, E. E.: Atlas of haematology, 1937.

Berkeley, Sir Comyns: Diseases of women, 1938.

Jensen, Julius: Heart in pregnancy, 1938.

Sauerbruch, Ferdinand: Thoracic surgery, 1937.

Bell, E. T.: Textbook of pathology, 1938.

Galloway, R. W.: Anatomy and physiology of physical training, 1937.

Eggleston, Cary: Essentials of prescription writing, 1937.

Sears, W. G.: Vade mecum of medical treatment, 1937.

Russell, J. I.: Occupational treatment of mental illness, 1938.

Sadler, W. S.: Psychiatric nursing, 1937.

Matsner, E. M.: Technique of contraception, 1938.

Sandstrom, Ivar: On a new gland in man and several mammals, 1938.

Dempster, J. H.: Medical writing, 1937.

Cobb, Stanley: Preface to nervous disease, 1936.

Rice, C. O.: Injection treatment of hernia, 1937.

Bloom, C. J.: Care and feeding of babies in warm climates, 1937.

Bailey, Hamilton: Emergency surgery, 1938.

Dublin, L. I.: Twenty-five years of health progress, 1937.

Chambers, J. S.: Conquest of cholera, 1938.

Martin, E.: Dextrose therapy in everyday practice, 1937.

Jacoby, G. W.: Physician, pastor and patient, 1936.

Brackenbury, Sir. H. B.: Patient and doctor, 1935.

Fischer, M. H.: Christian R. Holmes, 1937.

Schoute, D.: Occidental therapeutics in the Netherlands East Indies, 1937.

Dutton, W. F.: Parenteral therapy, 1936.

Froin, G.: Faisceau energetique et biologie, 1937.

Lefanu, W. R.: British periodicals of medicine, 1938.

Dunham, G. C.: Military preventive medicine, 1931.

Osaka Imperial University: Collected papers from the faculty of medicine, 1937.

A. M. A.: Congress on medical education proceedings, 1938.

A. M. A.: House of Delegates proceedings, 1933, 1934, 1935.

Argentina Congreso Nacional de Medicina: Actas y trabajos, 1931-32.

A. M. A.: Quarterly cumulative index medicus, 1938.

Southern Surgical Association: Transactions, 1937.

Rockefeller Foundation: International health board annual report. 1937.

U. S. Public Health Service: Transactions of the annual conference of the state and territorial health officers, 1938.

Piney, A.: Clinical atlas of blood diseases, 1938.

Davidson, W. C.: Compleat pediatrician, 1938.

American Red Cross: Ohio-Mississippi valley flood disaster of 1937.

N. Y. State Medical Society: Medical Directory of New York, New Jersey and Connecticut, 1937.

Crile, George: Surgical treatment of hypertension, 1938.

San Francisco Public Health Department: Bacteriology of specific communicable diseases, 1937.

Dennison, C. P.: Civilization and disease, 1938.

Jamieson, E. B.: Illustrations of anatomy for nurses, 1938.

Rigler, L. G.: Outline of roentgen diagnosis, 1938.

Levine, Morris: Practical otology, 1938.

Coward, K. H.: Biological standardization of vitamins, 1938.

McCulloch, E. C.: Disinfection and sterilization, 1938.

Hardy, J. A.: Synopsis of diagnosis of acute surgical diseases of the abdomen, 1938.

Anderson, M. E.: Cancer of the breast and cancer of the uterus, 1938.

Anderson, C. G.: Introduction to bacteriological chemistry, 1938.

Bluemel, C. S.: Troubled mind, 1938.

McPheeters, H. O.: Injection treatment of varicose veins and hemorrhoids, 1938.

Ligeros, K.: How ancient healing governs modern therapeutics, 1937.

Strecker, E. A.: Alcohol—one man's meat, 1938.

Myers, J. A.: Tuberculosis among children and young adults, 1938.

Cooper, E. A.: Aids to biochemistry, 1938.

Gilbert C. Anderson, M. D.,
Secretary

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

District	Date	Place
Second District	Third Thursday in November	Claytonia, near Norco.

Parish	Date	Place
East Baton Rouge	Second Wednesday of every month	Baton Rouge.
East and West Feliciana	First Wednesday in December	Clinton.
Orleans	Second and fourth Monday of every month	New Orleans.
St. Tammany	Second Thursday in December	Slidell.

SECOND DISTRICT MEDICAL SOCIETY

The Second District Medical Society held the regular monthly meeting at the Colonial Country Club, October 20, 1938, where the members were guests of Dr. A. V. Friedrichs. The meeting was called to order by Dr. J. E. Clayton, president, with the following members present: Drs. Kopfler, Sharp, Friedrichs, Edrington, Clayton, L. T. Donaldson, F. S. Herrin, J. S. Parker, Waguespack, and George. The guests were Drs. Roy Harrison, Emmett Irwin, W. H. Harris and J. J. Ciolino.

The minutes of the previous meeting were read and on motion of Dr. A. V. Friedrichs, seconded by L. T. Donaldson, accepted as read. A motion by Dr. J. S. Kopfler, was seconded by Dr. F. S. Herrin, that the following letter be sent to Dr. P. T. Talbot:

"The Second District Medical Society wishes to call to your attention that Dr. Chester Fresh, of Jefferson Parish, now has his application before the Orleans Parish for membership in that organization. Our Charter, and the By-laws of the State Medical Society say application for membership in the State Medical Society should come through our society. While on the subject will say that several other men in Jefferson Parish have joined the Orleans Parish Medical Society since the organization of our Society. These men are Drs. Carroll Gelbke, Joseph J. Massony, P. P. LaBruyere, and possibly others. Please give this your immediate attention."

All communications were read and accepted. On motion by Dr. L. A. Waguespack, seconded by Dr. Parker, the business meeting was adjourned.

Dr. Emmett Irwin, guest speaker of the evening, spoke on the acute abdomen. The subject was a very interesting one, and brought forth much discussion by the various members of the society.

Following the meeting a most delicious dinner was served to the members and guests.

The next meeting will be held at "Claytonia," the beautiful home of Dr. J. E. Clayton, near Norco, on November 17, 1938.

Fred S. Herrin, M. D., Sec.

FOURTH DISTRICT MEDICAL SOCIETY

The semi-annual meeting of the Fouth District Medical Society was called to order October 4, 1938 by Dr. M. D. Hargrove following dinner at the Shreveport Charity Hospital. The election of officers for the forthcoming year was immediately held. Dr. Sam Kerlin, of Shreveport, was elected President; Dr. V. W. Fletcher, of Ringgold, Vice-President; and Dr. N. J. Bender, of Shreveport, Secretary.

SCIENTIFIC PROGRAM

Dr. J. H. Musser, Professor of Medicine at Tulane, discussed "Modern Serum Therapy of Pneumonia." He used slides to illustrate the incidence of pneumonia in the various states, to show the lowered mortality with the use of serum in the various types, and to show the necessity of early typing and the giving of serum before signs of complete consolidation are present. The advantages of rabbit serum over horse serum were also brought out. Attention was called to the fact that serum therapy entailed considerable expense, but it was shown that serum therapy of pneumonia was not any more expensive than our modern treatment of acute appendicitis, in which the mortality rate is lower than in pneumonia. Dr. Musser's very instructive presentation was discussed by Drs. T. P. Lloyd, J. E. Knighton, W. H. Browning and V. P. Blandino.

Dr. Neal Owens, of Tulane University, presented the next subject on "The Operative Reconstruction of Facial Defects." Dr. Owens' excellent presentation was illustrated with pictures showing the patients before and after plastic work had been done. Included in his talk was the repair of defects about the eye, the nose, the ear, the cheek, the lips and palate, and the chin. Dr. Owens' paper was discussed by Drs. H. G. F. Edwards, O. C. Rigby, J. T. Crebbin and C. H. Webb.

N. Judson Bender, M. D., Sec.

BI-PARISH MEDICAL SOCIETY

The regular meeting of the Bi-Parish Medical Society was called to order on October 5, 1938, at the log cabin lodge of Dr. and Mrs. Silas L. Shaw.

Dr. T. Spec Jones, of Baton Rouge, was guest speaker and presented an excellent paper on goiter. A vote of thanks was extended to Doctor Jones for his masterly handling of this important subject; also to Dr. and Mrs. Shaw for their hospitality.

The next meeting of the society will be held in Clinton, the first Wednesday in December at 7:30 p. m.

E. M. Toler, M. D., Sec.

ST. TAMMANY PARISH MEDICAL SOCIETY

A meeting of the St. Tammany Parish Medical Society was held at 8 p. m., September 22, 1938 at the Southern Hotel. Dr. F. F. Young presided and Dr. H. E. Gautreaux served as secretary, having been selected for this position upon the death of Doctor Bulloch, who served the society good and well for many years. A committee was named, consisting of Drs. H. T. Gautreaux and Carl Young, to pass resolutions on the death of our late beloved member Doctor Bulloch and was instructed to forward them direct to the Journal for publication and send a copy to his widow.

Committees from the Police Jury and the School Board appeared before the meeting to ascertain the views of the society on the establishment of a health unit in St. Tammany Parish. Dr. R. W. Todd, representing the Louisiana State Board of Health, spoke in favor of the unit and explained many points in reference to its operation. A resolution was passed unanimously endorsing the opening of a health unit in the parish, provided it practiced strictly preventive medicine.

The next meeting of the society will be held at Slidell, the second Thursday in December, at which time election of officers for the year 1939 will take place.

H. E. Gautreaux, M. D., Sec.

EAST BATON ROUGE PARISH MEDICAL SOCIETY

A regular meeting of the East Baton Rouge Parish Medical Society was called to order on October 10, 1938. The meeting was held two days in advance of the scheduled time so that the members of the society might have the opportunity to hear Dr. Harry Aldridge of Boston, Massachusetts. Doctor Aldridge presented an excellent paper entitled "The Modern Treatment of Burns" which was exceedingly well received.

The next meeting will be held in Baton Rouge, the second Wednesday in November.

U. S. Hargrove, M. D., Sec.

NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

The Third Annual New Orleans Graduate Medical Assembly will be held February 6-9, at the Roosevelt Hotel. The entire program consists of a well-rounded list of activities and is planned primarily for those who wish a short, intensive refresher course. Each day a variety of interesting and helpful material will be presented.

In keeping with the established policy, eighteen guest speakers have been carefully selected because of their actual experience and their ability to present their subjects. Dr. Paul Henry Ringer of North Carolina, former President of the National Tuberculosis Association, will speak on "The Type of Tuberculous Lung Disease Suitable for Collapse Therapy." This subject should be of particular interest because of divergent views at the present time concerning the indications for this very important mode of therapy. Dr. Ringer will also speak on "Non-tuberculous, Subacute and Chronic Lung Disease," which is constantly assuming a more important position in medicine.

Dr. Franklin G. Ebaugh, Director of Colorado Psychopathic Hospital and Professor of Psychiatry, University of Colorado Medical School, has recently organized the Hawaii Mental Health Clinic. The subjects he will present will be of great value and interest to the profession in general, namely, "The Psychoneuroses in the General Practice of Medicine" and "The Contributions of Psychiatry as a Fundamental Phase of General Medicine."

The Section on Surgery is fortunate, indeed, in having such outstanding men as Dr. Charles Gordon Heyd, Professor of Clinical Surgery, New York Post-Graduate Medical School, Columbia University and last year's President of the American Medical Association, and Dr. Isidore Schwaner Ravdin, Harrison Professor of Surgery and Director of the Harrison Department of Surgical Research, University of Pennsylvania. Dr. Heyd will talk about "Morbidity and Mortality Factors in Gallbladder Disease" and "The Indications for Surgery in Gastroduodenal Ulceration." The subjects of Dr. Ravdin's addresses are "Diseases of the Extrahepatic Bile Passages" and "Problems of Pre- and Postoperative Treatment."

Due to a lack of space the subjects of the other speakers will be published in subsequent announcements. The registrants will be particularly fortunate in having a wide range of medical ideas presented by the country's outstanding exponents of medical science.

SOUTHERN MEDICAL ASSOCIATION
NOVEMBER 15-18, 1938

Fifty years ago those pioneers who traveled across the verdant prairies of Oklahoma found a spot of land in the heart of that territory which looked so inviting that they returned home and implored their representatives in Congress to open it up for settlement. After much political agitation and futile attempts of "boomers" to move in without authority, a decree was finally passed permitting white settlers to enter this territory and develop it, beginning in 1889. On April twenty-second of that year they were allowed to line up at the boundaries surrounding the unassigned lands of Oklahoma and exactly at noon a pistol was fired, permitting them to start running,—a race which has gone down in history as one of the colorful events in the record of American civilization. The race went to the swift, and in order of arrival each man was permitted to choose the spot which he desired to claim as his own. Out of this historic contest was born Oklahoma City, which today is as modern and beautiful a city as can be found in America, proudly presenting public buildings, streets, parks, schools, and other advantages second to none.

Eighteen miles to the south lies beautiful Norman, in which is located the State University. Only one other institution in the Southwest is comparable to it in size and quality of work, and it annually enrolls many thousands of students from all over this part of the United States. Its degrees are accepted everywhere, and its students are making good in all walks of life in every part of the earth. The Medical Department of the University is located in Oklahoma City, comprising a four story medical school building, University Hospital, Crippled Children's Hospital, a Dispensary and Nurses' Home, occupying approximately two blocks of ground. There are more than eight hundred hospital beds, and the Dispensary daily serves three to four hundred patients. The faculty of the school includes more than one hundred of the leading physicians and surgeons of Oklahoma City, and its graduates are recognized as capable men wherever they go.

Make up your mind to come to this meeting of the Southern Medical Association on November 15-18. You will find not only southern hospitality but you will find western frankness and friendliness. You will meet your friends from all over the South, and you will get the spirit of the West, as well as enjoy an outing which you have seldom been privileged to enjoy before. There will be alumni banquets for the graduates of every school of any size or prominence, and you will probably run across friends whom you have not seen for twenty or thirty years. The attendance for this meeting bids fair to break all records, and you cannot afford to miss it. We will be looking for you with open hearts and outstretched hands.

The Oklahoma County Medical Society.

INTERNATIONAL CONGRESS OF MILITARY MEDICINE

The forthcoming International Congress of Military Medicine and Pharmacy will be held in Washington, May 7-15, 1939. Invitations to participate have been sent to every country by the President of the United States and already acceptances have been received from several countries. A full scientific and social program has been arranged and shortly will be mailed to all the countries to which invitations were sent. A large registration is hoped for and every effort will be made by the committee in charge to make the Congress an attractive one to those participating. General Charles R. Reynolds, the Surgeon General of the United States Army, will be the President of the Congress. Registration is open to all officers of the medical services of the Army, Navy, Air and Colonial services, National Guard, territorial forces and public health service, whether active or reserve.

Colonel Harold W. Jones of the Army Medical Corps is Secretary General. The secretarial office is at the Army Medical Library, Washington, D. C.

COUNCIL ON PHYSICAL THERAPY OF THE AMERICAN MEDICAL ASSOCIATION

This Council has published a booklet in which are listed and described the articles that have been accepted by the Council. The pamphlet contains information on such apparatus as air filters, fever therapy equipment, hearing aids, metabolism testers, oxygen therapy apparatus and diathermy. Information about the various apparatus used in physical therapy is based in part on the evidence supplied by the manufacturers and in part on the investigation made by the Council. Because the article is accepted by the Council, it does not necessarily imply that the article is recommended; it advises rather that the maker of the article has complied with the rules adopted by the Council. However, rules of the Council are strict and the practitioner desirous of buying some apparatus will do well to look over this pamphlet before purchasing.

DIAGNOSIS OF SYPHILIS

Under this title, the United States Public Health Service has put out an extremely well worth-while booklet on the diagnosis of syphilis. It has been prepared by Doctor Moore of the Syphilis Division of the Medical Clinic of Johns Hopkins Hospital, and, like all of Doctor Moore's writings, it is succinct, authoritative and to a certain extent dogmatic. The pamphlet is well worth the ten cents that must be sent to the Superintendent of Documents, Washington, D. C., in order to obtain a copy.

TWO BIRDS WITH ONE STONE

Doctor Bauer, Director of the Bureau of Health and Public Instruction of the American Medical Association, has sent to the Journal reprints explaining the so-called Indiana plan of performing public health services in doctors' offices. The House of Delegates at the San Francisco meeting instructed the Bureau to publicize the plan and call it to the attention of the secretaries of the constituent societies. Copies have been sent to the secretaries of the district and parish societies. Extra pamphlets are available for any member of the society who wishes to familiarize himself with the plan.

ACADEMY OF PHYSICAL MEDICINE

The sixteenth annual meeting of the Academy of Physical Medicine will be held October 24-26, 1938 at the Willard Hotel in Washington, D. C. An excellent program has been arranged of scientific papers, demonstrations and exhibitis. An attractive social program has been set up for the visiting ladies.

Dr. George W. McCoy, Professor of Preventive Medicine and Public Health at Louisiana State University, took part in the Duke University Symposium on Medical Problems. Doctor McCoy discussed the cause and cure of leprosy, which, he said, still remain a mystery.

HOLBROOK ELECTED

Dr. C. S. Holbrook was elected President of the Southern Psychiatric Association at the meeting which was held in Atlanta early in October.

Dr. Ambrose H. Storck was elected Chairman of the Surgical Staff of the Charity Hospital of Louisiana at New Orleans.

The Flint-Goodridge Hospital of Dillard University has arranged for a course on the diagnosis and treatment of tuberculosis under Dr. Sydney Jacobs and one on the diagnosis and management of syphilis under Dr. B. J. DeLaureal.

THE PAN-PACIFIC SURGICAL ASSOCIATION

The congress will be held in Honolulu, September 15-28, 1939. This will be the third meeting since the establishment of the organization in 1929.

Surgeons from the Pacific area will be in attendance. The usual sessions will be provided, the chairmen of which are prominent men in the Australasian section. For further information write Dr. Forrest J. Pinkerton, Secretary-Treasurer of the Association, Young Building, Honolulu, Hawaii.

The Tri-State Medical Society met in Texarkana, October 26-27, 1938. Amongst others who appeared on the program were Dr. O. W. Bethea and Dr. E. L. King, of New Orleans.

FARM SECURITY ADMINISTRATION IN CONJUNCTION WITH THE MEDICAL PROFESSION

It is interesting to note that in North and South Dakota state wide programs for the care of the eligible low-income families will go into effect November first. Two dollars a month will be loaned to each family for medical care.

In the same bulletin from the United States Department of Agriculture, we see that "county wide plans are now in operation in 56 of Arkansas' 75 counties; in 13 counties in Missouri; 12 counties in Mississippi; 9 in Texas; 5 in Alabama, Georgia, and Ohio; 4 in Tennessee; 3 in Indiana and Oklahoma, and 2 in Iowa. Agreements have been reached with state medical associations in North Carolina, Wisconsin, Utah, New Mexico and Colorado. Plans are underway to approach local medical associations in those states."

To help busy physicians answer questions about nursing care, the Nursing Information Bureau of the American Nurses' Association has prepared two folders called "Wanted, A Real Nurse, an R. N." and "Safe Nursing Care and Where to Ask For It." They discuss briefly the significance of the term "Registered Nurse" and suggest how to secure the type of nursing service which may be needed. Physicians may secure copies of the folders from the Nursing Information Bureau, 50 West 50th Street, New York City.

INFECTIOUS DISEASES IN LOUISIANA

Dr. J. A. O'Hara, epidemiologist for the State of Louisiana, has furnished us with the weekly morbidity reports for the state, which contain the following summarized information: For the week ending September 17, the thirty-seventh week of the year, syphilis, as usual, led all other reported diseases with 182 cases listed. Other diseases that occurred in frequency greater than ten included 56 cases of pulmonary tuberculosis, 37 of cancer, 29 of pneumonia, 17 of measles, 15 of malaria, 14 of gonorrhea, and 10 each of typhoid fever and whooping cough. The typhoid fever cases were reported from throughout the state, widely scattered. A patient with typhus fever was observed in Calcasieu and one in Jefferson Davis Parish. For the next week, which came to a close September 24, there were listed 374 cases of syphilis, 40 of gonorrhea, 38 of pulmonary tuberculosis, 33 of cancer, 26 of whooping cough, 21 of pneumonia, 16 of diphtheria, 12 of typhoid fever and 11 of measles. Another case of typhus fever was reported from Calcasieu. The typhoid fever cases were again distributed widely throughout the state. For the thirty-ninth week, which terminated the first of the month, there were listed 130 cases of syphilis, 43 of cancer, 42 of pulmonary tuberculosis, 36 of pneumonia, 32 of malaria, 22 of measles, 20 of typhoid fever, 19 of gonorrhea, and 14 of diphtheria. Again the typhoid fever cases were endemic rather than epidemic throughout the state. Jefferson Davis reported a case of typhus fever. For the fortieth week of the year, which closed October 8, there were listed 217 cases of syphilis, 44 of cancer, 33 of pulmonary tuberculosis, 27 of pneumonia, 20 of diphtheria, 19 of whooping cough, 18 of malaria and 12 each of scarlet fever and typhoid fever. The only unusual disease reported this week was one case of tularemia. For the past month, the five year average in cases of syphilis has been way lower than the reports in this period of time. It should be noted, also, that the five year average, for example, of cancer has been exceeded very markedly.

HEALTH OF NEW ORLEANS

The Department of Commerce, Bureau of the Census, reports that for the week ending September 10, there were 121 deaths in the City of New Orleans, divided 67 white and 54 negro. Thirteen of these deaths occurred in children under one year of age. This is an exceptionally small number of deaths and contrasts most favorably with 167 deaths that occurred the week previous. The next week, the number of deaths was still relatively low, with 83 white people dying and 71 negro, totalling 154. Nineteen were in children under one year of age. There was a slight increase in the total number of 159 deaths as contrasted with the previous week. For this week, ending September 24, there occurred 92 white deaths and 67 negro, and of these divisions 19 were in children under one year of age. For three weeks there was a remarkable consistency in the total number of deaths occurring in New Orleans, 154, 159, and now 156 for the week ending October first. The white deaths totalled 88 and the negro 68; the infant deaths totalled 20.

A LETTER FROM THE INTERN CORPS OF THE CHARITY HOSPITAL

1430 Tulane Ave.,
New Orleans, La.

Dear Doctor:

When the new Charity Hospital of Louisiana is formally opened early in 1939, there still will be associated with it three persons who have been associated with it for well over half a century each, and whose personalities and professional attainments have played an important part in the development of the present institution.

So well known and so widely loved are these three that it is almost unnecessary to name them. One of them is Sister Stanislaus, Director of Nursing. Another is Dr. Rudolph Matas, Consultant on the Surgical Staff, who has been the recipient of almost every honor American and international medicine could give him. The third is Dr. George S. Bel, Consultant on the Medical Staff and Director of the Hospital since 1936. To these three, —nurse, surgeon, and internist and administrator, —is due a great debt of gratitude from the thousands of students, associates and friends whose lives they have influenced in ways that are as profound as they are immeasurable.

There has been a very general feeling that these three individuals should receive some mark of commemoration in the new hospital which is now nearing completion on the site of the old hospital, and an equally general feeling that the tribute should be open to many persons rather than limited to a few.

For those reasons a movement has been set on foot by the present Intern Corps of Charity Hospital to procure portraits of Sister Stanislaus, Dr. Bel and Dr. Matas, to be hung in the new hospital, in grateful appreciation of their long years of faithful and fruitful service in the old hospital.

You may contribute any sum up to a dollar, but contributions beyond that amount are not desired because, as we have said, the feeling is general that this should be a tribute from many and not from a few. We hope that we shall have the money in hand not later than November 14, 1938, so that the portraits will be ready for hanging when the new hospital is formally opened early in 1939. Send your contribution to the above address, in care of Dr. Shirley C. Lyons, President of The Orleans Parish Medical Society, or hand it to any member of the committee.

No follow-up letters will be sent. This is your only opportunity to express by this means your personal appreciation of these three persons who are outstanding representatives of the profession to which you also are devoting your life.

Shirley C. Lyons, M. D.
Hardee Bethea, M. D.
Homer Dupuy, M. D.
For the Committee.

LIONEL LOUIS CAZENAVETTE

(1874-1938)

Dr. Cazenavette died suddenly in the morning of October fifteenth. He had not complained of being sick and it was only an hour or two before his death that he had any premonitory evidence of the catastrophe which was to befall him. His death was due apparently to coronary occlusion. Dr. Cazenavette was a graduate of Tulane University, Class of 1897. A short time after his graduation, he took up his specialty and became affiliated with the school as a teacher, ultimately becoming Professor of Neurology and Psychiatry. He was well known to a large group of students. A keen neurologist, an able clinician and a student of his specialty, Dr. Cazenavette was one of the best known neurologists in the South. His knowledge of the neurologic expressions of leprosy was probably greater than that of any man living. For many years consultant at Carville, he regularly made trips there twice each month. A true gentleman of the old school, polite and courteous always, Dr. Cazenavette leaves behind him a host of friends and innumerable grateful patients.

LOUIS ANTHONY MERAUX

(1881-1938)

Dr. Meraux died October 6, 1938, aged fifty-seven years old, in New Orleans after a sickness of six weeks. Dr. Meraux was one of the best known medical men in the state, known not only on account of his medical skill, but also because of his many talents. Doctor Meraux was an outstanding political figure as sheriff of St. Bernard Parish. Through his friendship and love of his fellow men, whom he helped and for whom he was always willing to make sacrifices, he could have held every position in St. Bernard Parish that he wished to occupy, so great was the admiration and respect of his friends in the parish. For thirty years, he was the parish health officer. He was physician for the American Sugar Refinery, a director of the Whitney National Bank, and the owner of one of the largest citrus fruit orchards in the state.

JOSEPH ALPHONSE SAMPITE

(1879-1938)

Dr. Sampite, of Cloutierville, died at the age of fifty-nine at Hotel Dieu, October 11, 1938. He is survived by his wife and eleven children. Doctor Sampite practiced in Cloutierville for thirty-seven years. For seventeen years, he has been a member of the Natchitoches Parish School Board, and, when he died, was holding the position of vice-president of the board.

WOMAN'S AUXILIARY

Louisiana State Medical Society

President—Mrs. Frederick G. Ellis, Shreveport.

President-elect—Mrs. S. M. Blackshear, New Orleans.

First Vice-President—Mrs. C. A. Martin, Welsh.

Second Vice-President—Mrs. A. G. McHenry, Monroe.

Third Vice-President—Mrs. D. C. McBride, Alexandria.

Fourth Vice-President—Mrs. A. F. Hebert, New Orleans.

Treasurer—Mrs. O. C. Rigby, Shreveport.

Recording Secretary—Mrs. D. T. Milam, Monroe.

Parliamentarian—Mrs. A. A. Herold, Shreveport.

Corresponding Secretary—Mrs. C. B. Erickson, Shreveport.

Historian—Mrs. W. P. Gardiner, New Orleans.

The following quotation is from the inaugural address of Mrs. Charles C. Tomlinson, President of the Woman's Auxiliary to the American Medical Association:

"The American Medical Association has always stood for, and I am confident will always stand for, a system of medical practice which will best serve Americans. It is our duty as the Auxiliary to this great Association to aid in a valiant manner the upholding of its wholesome principles and to resist, with all our strength, the influence of selfish and uninformed groups who seek to mold public opinion. Though we are in our youth as an organization, and find ourselves in a world of turmoil in which unprecedented trends rock the very foundations of established institutions, let us not become bewildered. Let us remember that medical science has weathered the storms of countless political and social upheavals. It has outlived kings and emperors, dictators, monarchies, democracies and totalitarian states. It has survived prejudice, superstition, and persecution. Like life itself, which is its chief preoccupation, it is indestructible. Today, medicine is under the close scrutiny of the economists. There is no criticism of its benevolence and glory. The issue is purely an economic one.

"I know of no greater service which this body can render than to release the truth about medicine and medical practice, and it is logical to assume, that, in order to inform others, we ourselves must possess the information which we attempt to disseminate. To me, this is our first essential to an effective program. It is only through factual knowledge gained by the public that the calamity of bureaucratic control may be averted."

Mrs. Henry Raile, Chairman, Public Relations in the National Auxiliary, says:

"The blazing spotlight so rudely turned upon the medical profession has left us all blinking. The question of just what one should do under such circumstances confronts us with alarming and disarming suddenness. We cannot run away from it, we cannot shout disapproval, we are powerless to shift its focus. Only one alternative remains: We must endure scrutiny unflinchingly, accept it with poise in manner befitting the dignified ladies and gentlemen we aim to be.

"Our every word and act has recently taken on new significance. Each Auxiliary member, with or without individual consent, has become an active unit in public relations, and of necessity must deport herself in all public contacts in a manner complimentary to the organization. Consequently before we can outline public relations, or courtesy contacts with others, we must turn eyes upon ourselves to see that we are fit emissaries for the profession.

"During 1938-1939 concerted effort should be directed toward making doctors' wives better informed, more tactful toward promoting friendly intermingling among county auxiliaries and increasing the state auxiliaries' usefulness to the national association. In other words, county auxiliaries during this precarious year should direct much effort toward the improvement and the beneficial relationships of their own members in order that they may function to better advantage in all that they may undertake in the field of public relations."

Dr. Irvin Abell, President of the American Medical Association, speaking at the convention in San Francisco charged Auxiliary members with "responsibility of educating themselves and then others on medical problems and achievements." Therefore, beginning with self-education, a series of practical Auxiliary meetings is proposed—meetings held for the purpose of seeing ourselves as others see us and profiting accordingly.

It is hoped to make such meetings thoroughly informal but very social, accomplishing the Auxiliary's first big purpose of having its members know and enjoy each other. While a means of promoting public relations within the group, these meetings by being subtly educational should be a preparation for future public relations of wider scope.

Mrs. V. E. Holcombe, Chairman of the Program Committee for the national organization makes these suggestions for program building:

"The physician's wife should be familiar with and conversant on the subject of socialized medicine. Pamphlets on this subject may be secured from the Bureau of Medical Economics of the American Medical Association, 535 North Dearborn Street, Chicago, Illinois. Let me urge every doctor's wife and member of the Auxiliary to procure her husband's copies of The Journal of the American Medical Association for July 30, and August 30, 1938. These contain reports of the proceedings of the National Health Conference, also, an editorial commenting thereon. Socialized medicine is a vital subject upon which members of the Auxiliary should be informed since it will certainly be discussed in women's clubs and in other meetings. The definition of socialized medicine is given in Britannica's 1938 Book of the Year, page 606.

"A suggested outline for special study groups or for use on regular monthly programs is as follows:

1. Washington Health Conference.
2. Confidence in Your Physician.
3. Is Medicine to be Socialized?
4. Who Chooses Your Doctor?
5. Economics and the Ethics of Medicine.
6. Rural Medical Service. Cooperatives and Medical Service.
7. Organization of Medical Services.
8. Medical Service Plans.
9. Questions and Answers. (Medical Economics)

"Packets containing leaflets on these subjects may be obtained upon request from Dr. R. G. Leland, Director of Bureau of Medical Economics, 535 North Dearborn Street, Chicago, Illinois.

"Any one of the following books will prove interesting and entertaining for reviewing:

Pasteur: Knight of the Laboratory by Francis E. Benz. Dodd, Mead & Company, New York, 1938. $2.00.

Fearfully and Wonderfully Made by Renée Van Eulenburg-Wiener. Macmillan Company, New York, 1938. $3.00.

Behind the Night Bell by F. G. Layton. Faber & Faber, London, 1938. $3.50.

Fifty Years a Country Doctor by William N. Macartney. E. P. Dutton & Company, New York, 1938. $3.00.

Medical Magic by David Dietz. Dodd, Mead & Company, New York, 1938. $3.00.

The Truth about Childbirth by Anthony M. Ludovici. E. P. Dutton & Company, New York, 1938. $2.50.

Scapel and Sword by Sir James Elliott. Published in Austria, 1936. 7s. 6d.

Florence Nightingale, the Woman and the Legend by Margaret Goldsmith. London, 1937. 15s 6d.

Out of Africa by F. G. Carnochan and H. D. Adamson. Cassell, London, 1936. 10s. 6d."

OUACHITA PARISH

Mrs. Clifford U. Johnson, of Monroe, is president of the Ouachita Auxiliary. At her first executive board meeting she invited the officers and chairmen from last year to meet with the new board. They discussed together work that had been accomplished and learned what was expected of them this year, as Mrs. Johnson said, "to avoid any confusion or unnecessary delay in carrying on the year's work."

The Ouachita year book is beautifully done and presents for the year a most intriguing program. The members meet for lunch at the Lotus Club and have a program later, presenting their own members, as well as other distinguished speakers, at these meetings. The following outline gives an idea of the "plain thinking" they combine with their "high living" in Monroe.

Relation of the Auxiliary to the Parish Medical Society: Dr. M. Hunter.

Hygeia in Office, School and Home: Mrs. H. Coon.

Madame Curie: Mrs. J. P. Brown.
Article from Hygeia: Mrs. D. T. Milam.
"Bring Your Husband" Luncheon.
Women in Science and Medicine: Mrs. C. P. Gray.
Article from Hygeia: Mrs. R. W. O'Donnell.

Correct Application of First Aid to Injured: Mr. E. C. Gibson.

Article from Hygeia: Mrs. H. Rogers.
Doctors' Day Program.
Cancer Control: Mrs. A. D. Tisdale.
Address on Blindness: Dr. P. L. Perot.

Address: Mrs. King Hunt, President, P. T. A. Council.

Nurses as Honor Guests.
Annual Meeting.

The Ouachita Auxiliary will entertain at tea during the meeting of the Louisiana State Nurses Association in November.

Dr. and Mrs. J. L. Peters have announced the engagement and approaching marriage of their daughter, Sadye Lou.

Mrs. Morgan Simonton is a new member of the Auxiliary.

Dr. and Mrs. A. B. Gregory are receiving congratulations on the arrival of their first grandchild.

Mrs. R. W. O'Donnell,
Press and Publicity Chairman.

CALCASIEU PARISH

OFFICERS

President: Mrs. Walter Moss, 511 Hodges St.
President-elect—Mrs. W. P. Bordelon, 1516 Kirkman St.

First Vice-President: Mrs. Robert Marshall, Sulphur.

Second Vice-President: Mrs. Louis Hebert, 813 Pujo St.

Secretary: Mrs. J. Y. Garber, 213 Park Ave.

Corresponding Secretary: Mrs. J. A. Crawford, 1015 Pujo St.

We regret that Dr. and Mrs. Bennett Sewell are moving to Boyce, La. Mrs. Sewell was our treasurer for the coming year.

We are delighted to announce the arrival in our midst of Dr. and Mrs. G. E. Barham, who moved here from Seward, Alaska. Dr. Barham has joined Dr. C. V. Hatchette in general practice.

Dr. and Mrs. C. V. Hatchette announce the arrival of a third child, this time a son, James Benton Hatchette, III.

The Junior Welfare League of Lake Charles presented a Musical Revue on October 5 and 6. It was a great financial success and the members of the Auxiliary who took part in it were:

Mrs. Ben Goldsmith, Ticket Chairman.
Mrs. Robert Howell, Ticket Committee.
Mrs. S. F. Hatchette, Usher Committee.
Mrs. Walter Moss, Costume Committee.

Mrs. G. E. Barham, Mrs. T. C. Moody, Mrs. Walter Moss, Mrs. J. Y. Garber took part in the Revue itself. Dr. T. C. Moody also took an active part in the Revue.

Mrs. John Di Giglia,
Press and Publicity Chairman.

CADDO PARISH

The Shreveport Auxiliary honored Mrs. Frederick G. Ellis, President of the Louisiana State Woman's Auxiliary at a formal tea in October in the home of Dr. and Mrs. Broox C. Garrett. In response to the tribute paid her by Mrs. C. E. Rew, president of the Shreveport group, Mrs. Ellis spoke briefly but with high inspiration of the work of the Auxiliary, urging the serious study of current trends in medical economics, and the intelligent use of "Hygeia" in getting information.

Mrs. A. A. Herold, National Chairman of Legislation, gave a report of the A. M. A. meeting. She was most forceful in urging study groups in the Auxiliary.

Mrs. T. B. Langford read Sir James Barrie's "The Twelve Pound Look."

The Shreveport year book was compiled by a committee working with Mrs. E. L. Gill as chairman. A brief synopsis of programs for this year follows:

Tea honoring Mrs. F. G. Ellis, State President; play reading; lecture—"Peace and Conscription"; current events in medicine; Christmas dinner party honoring husbands of members; gardening—by the Lady with the Hoe; flower arrangement; St. Valentine's musicale; pageant of medicine; lecture on hobbies by Mrs. E. L. Gill; hobby show by members; medical current events; annual garden party during iris time in the garden of Dr. and Mrs. J. L. Scales.

The principal project of the Auxiliary is sponsoring the education of the children in the Pines Preventorium for tuberculous children. The Auxiliary obtains funds for the work by the tuberculosis seal sale at Christmas in the parish schools.

Other projects carried on by the Shreveport group are Hygeia, Doctors' Day, Southern Medical History, Periodic Health Examination, and a Fund to Aid Indigent Physicians. For several years the public relations chairmen have conducted study groups in parliamentary law. This year the chairman, Mrs. M. S. Le Doux, will also sponsor a study groups in socialized medicine and related problems.

Mrs. R. L. Simmons,
Press and Publicity Chairman.

Respectfully submitted,

Mrs. Robert T. Lucas,
Press and Publicity Chairman.

BOOK REVIEWS

Thoracic Surgery: By Ferdinand Sauerbruch and Laurence O'Shaughnessy. Baltimore, William Wood & Company, 1937. Pp. 394. Price $13.50.

This is a new and abridged English edition of the classic "Die Chirurgie Der Burstorgane," which first appeared in 1918. The volume considers all aspects of thoracic surgery including surgery of the chest wall and lung, surgical treatment of pulmonary tuberculosis, surgery of the heart and vessels of the mediastinum, surgery of the thymus, esophagus, and diaphragm, with an appendix on the surgical treatment of cardiac ischemia by omental grafts.

The text, which is written in a style not at all indicative of its German origin, is clear and fluent. After discussion on the various surgical conditions, brief significant case histories are given as examples. There are 215 illustrations and 15 colored plates, which, incidentally, are much more artistic and demonstrative than illustrations usually found in medical texts. The roentgenograms are in each instance perfectly clear and obviously show what they are intended to demonstrate. The photography is excellent.

This volume is undoubtedly one of the classics in surgical literature and on this subject has but one compeer in the English language, two volumes recently published on collapse therapy in pulmonary tuberculosis. So rapid is the advance in chest surgery that in this very authoritative source we find obsolescence; for example, the authors state that "despite a trial of more recent anesthetic agents . . . ether has remained the anesthetic of choice. Gas and oxygen anesthesia is never employed . . . Anesthesia is continued with oxygen and ether given by positive pressure apparatus." One wonders whether the reason for this choice is not the same as that which grounded the zeppelins, namely, that gas anesthesia may be almost as difficult to obtain in Germany as helium.

Again the chapters on collapse therapy, particularly dealing with thoracoplasty, can now be rewritten in the light of advances made in the last few years. The Semb operation is not mentioned and this has been so revolutionary in changing the indications for extensive thoracoplasty that in that light one would have to modify information derived from that chapter.

The authors still mention thymectomy in Graves' disease. Long ago attacked as the etiologic basis of the disease, the thymus really has been proved of secondary importance, which the authors recognize. They state though, "that in the first place a large thymus produces respiratory distress and should be at least in part removed. Thyroidectomy is also indicated when the general symptoms of Graves' disease are present without enlargement of the thyroid and in those cases in which partial thyroidectomy has failed to relieve." There is no evidence to substantiate such statements.

Any surgeon operating on lesions of the chest should not only have this volume but should read it in part or in full. It is an outstanding work and it is a pleasure to see so much authoritative information efficiently displayed in this relatively brief one volume edition.

Howard R. Mahorner, M. D.

The Occupational Treatment of Mental Illness: By John Ivison Russell, M. D., Ch. B., F. R. F. P. S. (Glas.), D. P. M. Baltimore, William Wood and Company, 1938. Pp. 231. Price, $2.50.

This is an excellent book which should be of much value to the psychiatrist as well as to the occupational therapist. In it is emphasized Galen's maxim that "Employment is nature's best physician and is essential to human happiness." The author believes that without a share in the work of a community, one is apt to suffer from the painful feeling of being ineffective and that the ideal self is frustrated and depressed by idleness. He believes that idleness is a positive evil and is the cause rather than the effect of the social, moral and intellectual deterioration of patients suffering from mental illness of long duration. He thinks it is not enough for the patient to be engaged in a time passing occupation and states that the criterion of successful occupational treatment is not the quality or quantity of the work done but the patient's pride in the doing of it.

Chapter II, "Psychological Types," is interesting and important and contains unique classification groups.

Chapter III, "Clinical Types," is a masterpiece in which the author demonstrates an amazingly profound conception of the therapeutic occupational needs in various types of mental illness.

In Chapter VI, "Habit Training," there appear excellent schedules for training in cases of men and women.

Nothing is more pathetic than to observe hundreds of mentally ill patients subjected to enforced, complete idleness on the wards of our hospitals. The testimony on the benefits of exercise, labor and habit training is so convincing that one wonders why the full development of occupational therapy is being so long delayed.

It is impossible to estimate the value of the results to be obtained by the adoption of some such plan for the employment of all patients in our hospitals, as is outlined in Doctor Russell's book, and it is time for something to be done about it.

C. P. May, M. D.

British Periodicals of Medicine: A Chronological List: Compiled by W. R. Lefanu. Baltimore, Johns Hopkins Press, 1938. Pp. 93. Price, $1.00.

This list of medical periodicals published in the British Empire will prove of undoubted aid to bibliographers, librarians and medical research workers. No such list has been compiled previously for the entire Empire, although individual bibliographies for Australia, Canada, India and Ireland have been published. Part I deals with periodicals of the seventeenth, eighteenth and nineteenth centuries. Part II lists journal publications from 1900 to 1938. Indices for each part make readily accessible the individual entries which are arranged in chronologic order. This small volume should find a place on the reference shelf of every medical library.

Mary Louise Marshall.

Injection Treatment of Hernia: By Carl O. Rice, M. D., F. A. C. S. Philadelphia, F. A. Davis Co., 1937. Pp. 250, 83 illus. Price $4.50.

Placing emphasis upon the anatomy of hernia, which he regards as essential to the proper treatment by injection, the author goes into detail on every phase of this technic. The efficiency of various solutions is fully discussed, with complete elaboration on the histopathology produced.

Complications and sequelae which may occur are outlined, with suggestions as to how these may be avoided or treated. Indications for the contraindications to the injection treatment are considered in an unbiased manner.

Not the least interesting of the eleven chapters is that dealing with the history of this method of correcting hernia. Another engaging section gives the medico-legal aspects of such abnormalities in various states.

This work is adequately illustrated with anatomical drawings, photographs and photomicrographs. It contains a bibliography.

S. D. Murray, M. D.

Emergency Surgery: By Hamilton Bailey, F. R. C. S. (Eng.). William Wood and Co. Baltimore, 1938. Pp. 852. Price, $14.00.

This is the third edition of this commendable work since 1930. In general, this edition has been little changed over the first one of 1930-31. For instance, the author still feels that the tannic acid treatment for burn cases is the treatment par excellence. In the first edition, he recommends a 2½-5 per cent tannic solution and now he advocates 40 per cent in a 1-1000 acriflavine solution. In his discussion of gas gangrene there is no change over that in his first edition, x-ray treatment not being mentioned, and the use of anti-tetanic and gas bacillus serum being only hinted at.

There have been a few additions to the book, such as the use of sulfanilamide in various conditions. The volume is well illustrated and contains many two-tone prints which are of much value to the reader.

There are several points of view which will not meet with those of other capable surgeons. As in the chapter on laparotomy, the author favors suprapubic drainage of the general peritoneal cavity in all acute abdominal conditions, regardless of the position of previously, otherwise placed incisions. He places very great value on the Fowler position in acute abdominal conditions in general. In the chapter on appendectomy, the author recommends the ligation and inversion method. At the conclusion of every operation for gangrenous appendix he advocates using 10 c.c. of mercurochrome intravenously. In his treatment of acute periosteomyelitis he suggests rather radical surgery.

The chapters on gallbladder and bile ducts, intra-abdominal injuries, and thoracic injuries, as well as many of the others, are very well done. Every phase of emergency surgery has been covered, and much of the material comes into the field of the various specialties, as bronchoscopy, esophagoscopy and eye, ear, nose and throat.

Although it seems to the reviewer that several of the chapters could well stand rewriting and bringing up to date, the author is to be highly complimented on the manner in which he has handled his subject. The book well merits a place on the ready reference shelf of every surgeon and on that of most physicians in the smaller communities, who may at any time be called upon to treat emergencies.

O. J. Hartig, M. D.

Practical Otology: By Morris Levine, M. D., F. I. C. S. Philadelphia, Lea & Febiger, 1938. Pp. 416. Price $5.50.

This interesting and excellent book on otology represents essentially a compilation of lectures delivered by Dr. Levine. It is written in a most interesting style dealing with clinical and practical problems which are encountered in daily routine office work. The author's method of handling the various cases is described, and numerous prescriptions are suggested. One is impressed with the fact that the local condition is never permitted to mask the general condition of the patient, and due attention is always given the latter. The book will not only answer the needs of the student and the postgraduate, but will also serve the specialist in reviewing briefly the essentials so easily forgotten.

This is a well written and practical book on otology which meets the needs of the student.

Francis E. LeJeune, M. D.

Dietetics for the Clinician: By Milton Arlanden Bridges, B. S., M. D., F. A. C. P. Philadelphia, Lea & Febiger, 1937. Pp. 1055. Price $10.00.

"Dietetics for the Clinician" is a very valuable book for those interested in dietetics alone as well as those physicians who are called upon to prescribe a diet for some particular condition in their private practice. The volume gives a brief review of the mechanics of digestion and the physiologic chemistry of digestion, along with the general classification and structure and caloric value of various foods.

The bulk of the book deals with "Diseases and their Diets." Each disease is discussed in general and then various sample diets, or a list of foodstuffs which would be compatible with the disease, are stated. In another section the various foods are grouped according to classification, and the conditions in which they may be used are noted. This would seem a valuable aid since the physician need only refer to the disease in question to ascertain those articles of food which may be used in a given condition. Practically no disease of any importance is omitted from the discussion.

Another valuable part of the book is the appendix where most articles of food are given in table form along with their caloric values both in metric and household units. The book has an excellent bibliography on dietetics and foodstuffs. It should be extremely valuable for the use of physicians in private practice as well as to reacquaint those not specialized in dietetics with the importance of this branch in the treatment of their patients.

K. L. Dickens, M. D.

Biological Standardization of the Vitamins: By Katharine H. Coward, D. Sc. Baltimore, William Wood & Co., 1938. Pp. 227. Price $4.50.

This authoritative book, written by an experienced worker in the field, covers the field of the determination of the vitamin potency of foods, materials prepared especially for use in therapy, and the handling of preparations obtained when workers are investigating the chemistry of the vitamins themselves.

Part 1 (148 pages) deals with the practical side of the subject with a discussion of the general principles which govern the biologic methods of determination of the vitamins, animals that are suitable for such purposes, and the determination of vitamins A, B_1, C and D. There is a chapter on the interdependence of the vitamins.

Part 2 (57 pages) covers the mathematics involved, a discussion of the accuracy of vitamin estimations, a report of the second International Conference on Vitamin Standardization, and a table, expressed in international units, showing the vitamin content of some common foods.

The material assembled here is difficult of access and not easily appraised, and the author has rendered a valuable service in bringing the information together.

Sidney Bliss, Ph. D.

Outline of Roentgen Diagnosis: By Leo G. Rigler, B. S., M. B., M. D. Philadelphia, J. B. Lippincott Company, 1938. Pp. 212. Price, Atlas Edition, $6.50; Student's Edition $3.00.

Lecturers and teachers of radiology have for some time felt the need of a comprehensive set of notes in outline form. This volume by an author of wide experience has adequately supplied this necessity. The subject matter is covered in eleven sections, divided to include the various systems. The indications for, and the information to be obtained from fluoroscopy and roentgenography in each case are carefully covered. Special roentgen examinations employing the various opaque media are also discussed. Of great value is the author's concise and careful consideration of the variations of the normal roentgen findings in the case of each examination. The technical errors which may interfere with correct interpretation also receive due consideration.

This work is printed in an "exclusive text edition" for students, and in an "atlas edition". The text matter is similar in the two formats. The atlas edition includes the 254 illustrations and x-rays referred to in the text. As a whole, this work should prove a valuable text to medical students and a quick reference work for physicians.

J. N. Ané, M. D.

The Compleat Pediatrician: By Wilburt C. Davison, M. A., D. Sc., M. D. Durham, N. C., Duke University Press, 1938. Pp. 250. Price $3.75.

This volume, its title page adapted from that of "The Compleat Angler," attempts to do for pediatrics what the latter does for fishing. Designed for the use of the medical student, intern, general practitioner, and pediatrician, "The Compleat Pediatrician" gives the impression of attempting to condense the whole of pediatrics into one abbreviated volume. Unless one follows very carefully the directions for using the book, he will be lost in a meaningless sea of signs and symptoms.

The first seven chapters deal with diseases of children, grouped according to the principal system affected by the disease. Each chapter is subdivided into: first, signs and symptoms characteristic of that particular system; second, descriptions of the specific conditions. Similiar pathologic groups are discussed together and then differentiated.

A detailed chapter is devoted to laboratory procedures, and other procedures frequently used in the practice of pediatrics. This chapter and another dealing with history taking and the physical examination of the child are of particular value to the medical student. Nutrition, general care and nursing, and infant feeding are extensively considered. A final chapter on drugs and prescriptions rounds out a very well written and valuable, up-to-date reference book which deserves a place in the library of every medical student and pediatrician.

Ruth Shushan, M. D.
Morris Shushan, M. D.

Aids To Biochemistry: By E. A. Cooper, D. Sc., F. I. C., A. R. C. S., and S. D. Nicholas, B. A., A. I. C. Baltimore, William Wood & Co., 1938. Pp. 213. Price $1.50.

This little volume is of handy pocket size. The authors state that the intention is to present the general principles of biochemistry to students of medicine and science who have already studied the subject by means of larger textbooks or lecture courses. They state, further, that the book is intended primarily for purposes of revision.

The book touches upon the various classic divisions of the subject of biochemistry, and is brief and sketchy, with considerable space devoted to special preparations of substances of biochemical interest.

It is a little puzzling to note that the vitamins receive but seven very small pages in a book of over two hundred pages, and the information, though reviewed in this second edition to 1938, is incomplete.

The book is one of a series called by the English publishers "Student Aids Series" and carries the statement that these books are "specially designed to assist students in grouping and committing to memory the subjects upon which they are to be examined."

The reviewer finds it difficult to picture how it would fit in with educational methods in this country.

Sidney Bliss, Ph. D.

Civilization and Disease: By C. P. Donnison, M. D. (Lond.), M. R. C. P. (Lond.). Baltimore, William Wood & Co., 1938. Pp. 222. Price $3.00.

There is much to intrigue the imagination in books comprising this category. There can be no question but that civilization has tremendously influenced the advent and incidence of certain diseases which afflict the members of the most enlightened nations of today. It is the aim of the author to prove that a very close relationship exists between diseases such as hyperpiesia, Graves' disease, psychoneurosis, diabetes, peptic ulcer, and the complex environment which in its highest development we designate as civilization. Because the author has had the great advantage of having practiced among the primitive peoples of Africa as well as in England, he has been able to evaluate critically and correctly the differing effects of a primitive and cultured environment upon a people. The absence or the occasional cases of the above mentioned diseases among the aborigines is a fact that he, as well as others, have been able to note. The author stresses the psychosomatic unity of the individual and reveals the "steady progressive modification of the mind . . . toward social development." It is the failure of the individual to adapt itself adequately to the intricacies of the environment of modern civilization that is responsible for the so-called diseases of civilization.

The author briefly reviews the various schools of thought concerning the etiology of the psychoneuroses and the origin of civilization and accepts the conclusions of the Adlerian psychology as being the most enlightening, in an effort to show the interrelationship of civilization and disease. The author has written a most diverting and informative book in a style that will provoke and retain the interest of the reader.

I. L. Robbins, M. D.

Surgical Treatment of Hypertension: By George Crile. Philadelphia, W. B. Saunders Co., 1938. Pp. 239. Price $4.00.

As is the case in most of Crile's work, this new volume, which represents pioneer work in an entirely new field, is very interesting, and really represents a most valuable addition to our knowledge of hypertension. The author has been a pioneer explorer in this relatively new field in surgery, and his experiences, as he recounts them in this book give the profession new hope in the attempt to harness an affliction that until now has defied every method of therapy at our command.

The study is unfolded, as is always the author's custom, in a very systematic manner. He shows the importance of the brain, thyroid, adrenal and the sympathetic nervous system in man, and makes comparisons with other species of animals that are most convincing. The relationship of these all important structures and organs to hypertension is very well shown; the pathologic physiology is convincingly presented. Crile draws an analogy between "the genesis and surgical treatment of hypertension" and hyperthyroidism, and thus emphasizes the rationale of his surgical treatment of hypertension.

Co-authors have discussed, rather briefly but very fully, the "types of arterial hypertension and their recognition," the "ocular examination of the patient with hypertension,' and "the renal lesion in essential hypertension." These men have presented newer aspects in these fields and have added important data to the field of hypertension.

Later Crile describes his technic of celiac ganglionectomy, presenting the operation as first done by him and explaining the reasons for the present day methods, tracing the evolutionary steps in a most interesting manner. In the last chapter he presents the history of the surgical treatment of hypertension with a review of the literature. The writer recommends this volume most highly to both internist and surgeon.

Frank L. Loria, M. D.

Internal Medicine: Its Theory and Practice: Edited by John H. Musser, B. S., M. D., F. A. C. P. Philadelphia, Lea and Febiger, 1938. Pp. 1428, with illus. Price $10.00.

The third edition of Musser's text, "Internal Medicine," to appear within six years includes improvements in many sections. All sections have been brought up to date.

This revision has 140 pages more than the second edition and much additional information on influenza, undulant fever, tetanus, tularemia, furunculosis, streptococcic meningitis and the contagious diseases of childhood. The sections on diseases of the blood vessels, respiratory tract, and glands of internal secretion have been revised, not only by including the recent advances in those diseases, but also by simplifying the method of presenting the material. There have been many additions, for example, Haverhill fever, Oroya fever, gastroscopy, regional enteritis and peritoneal tuberculosis. The accepted newer methods of therapy, as protamine insulin in diabetes mellitus, have been included in the discussions on the various diseases.

The section on the mycoses, previously written by I. I. Lemann, and the one on blood vessels, previously written by George Brown, have been rewritten by Frederic M. Hanes and E. V. Allen, respectively. Fuller Albright, the third new contributor, is responsible for the article on the gonads in the section on diseases of the glands of internal secretion.

The text still retains the lucidity, simplicity and conciseness, which characterized the first two editions. The salient and established facts concerning the diseases of internal medicine are presented in such a manner that the reader may readily correlate pathologic physiology with clinical manifestations,—a necessary objective too frequently neglected in many textbooks of medicine. All sections have been modified to keep them abreast of the rapid progress of medicine.

This revision continues to be an outstanding text of internal medicine, with contributions by prominent authorities in the respective fields of disease entities. The book is highly recommended to students and practitioners who are interested in a practical, simple, clear, well organized, source of the latest important aspects of internal medicine. The present edition is worthy of an equally fine reception as that accorded to the previons editions.

George E. Burch, M. D.

An Introduction to Bacteriological Chemistry: By C. G. Anderson, Ph. D. (Birm.) D. Bact. (Lond.). Baltimore, William Wood & Company, 1938. Pp. 28. Price $4.00.

Students of advanced bacteriology and immunology should find Anderson's "Introduction to Bacteriological Chemistry" of utmost value. The author divides the book in three parts: Part I gives a general discussion of hydrogen ion concentration and pH, colloids and adsorption, enzymes, the chemical composition of bacteria, yeast and the lower fungi. In part II, metabolism, respiration and prevention of micro-organisms are considered. Then the substances synthesized of the organisms, such as proteins, sugars, lipoids and pigments are detailed. Part III gives a brief outline of the chemistry of antigens, haptens, antibodies, and an explanation of their reactions is presented. Those who want an elementary book on the relation of chemistry to bacteriology will make no mistake in reading Anderson's text.

J. R. Kriz, M. D.

Illustrations of Anatomy for Nurses: By E. B. Jamieson, M. D. Baltimore, William Wood & Co., 1938. 62 plates. Price $3.00.

This compact volume of 62 well selected and beautifully executed plates should serve as a standard reference work for nurses. The diagrammatic quality of some of the plates clarifies relationships which are frequently obscured by more detailed delineation. It is regrettable that practical plates on surface anatomy (and landmarks) are not included.

B. B. Weinstein, M. D.

Bacteriology of Specific Communicable Diseases: Edited by M. S. Marshall. San Francisco, City & County of San Francisco Public Health Department, 1937. Pp. 141. Gratis.

"Bacteriology of Special Communicable Diseases" is a small manual containing a great deal of data that should prove of value not only to those physicians engaged in public health work but also to those of us in private practice. It is the basis for the work conducted in one of our leading American cities. It has an added interest in that the author, Dr. J. C. Geiger, Director of Public Health, City and County of San Francisco, California, is a graduate of Tulane School of Medicine.

I. L. Robbins, M. D.

Clinical Atlas of Blood Diseases: By A. Piney, M. D., M. R. C. P., and Stanley Wyard, M. D., M. R. C. P. Philadelphia, P. Blakiston's Son & Co., 1938. Pp. 127. Price $4.50.

This fourth edition of the small atlas of Piney and Wyard brings up to date in compact form the study of the essential diseases of the blood. To keep pace with the more recent advances in hematology, the present edition has been rewritten and five new plates added.

It is a handy, small book, thoroughly suited for the medical student as well as the practitioner.

J. R. Kriz, M. D.

PUBLICATIONS RECEIVED

Colwell Publishing Company, Champaign, Illinois: The 1939 Daily Log for Physicians.

J. B. Lippincott Company, Philadelphia: Human Pathology by Howard T. Karsner, M. D. Urology by Daniel N. Eisendrath, M. D., and Harry C. Rolnick, M. D.

The C. V. Mosby Company, St. Louis: The Practice of Medicine by Jonathan Campbell Meakins, M. D., LL. D.

W. B. Saunders Company, Philadelphia: Diseases of the Chest and the Principles of Physical Diagnosis by George W. Norris, A. B., M. D., and H. R. M. Landis, A. M., M. D., Sc. D. The Pneumonias by Robert A. Reiman, M. D. Plastic Surgery by Arthur Joseph Barsky, M. D., D. D. S.

Charles C. Thomas, Springfield and Baltimore: A Historical Chronology of Tuberculosis by Richard M. Burke, M. D.

The Williams and Wilkins Company, Baltimore: Biography of the Unborn by Margaret Shea Gilbert. Big Fleas Have Little Fleas by Robert Hegner.

William Wood and Company, Baltimore: A Synopsis of Physiology by A. Rendle Short, B. Sc., M. D., F. R. C. S., and C. L. G. Pratt, M. D. (Educ.), M. Sc., M. D. A Guide to Human Parasitology by D. B. Blacklock, M. D., (Edin.), D. P. H., (London), D. T. M. (Liver.), and T. Southwell, D. Sc., Ph. D., A. R. C. Sc., F. Z. S., F. R. S. E.

SPECIAL SUPPLEMENT

SPECIAL MEETING OF REPRESENTATIVES OF THE FARM SECURITY ADMINISTRATION AND MEMBERS OF THE LOUISIANA STATE MEDICAL SOCIETY

OCTOBER 11, 1938

A special meeting of representatives of the Farm Security Administration together with the officers and members of the Executive Committee of the State Medical Society and a few others was held October 11, 1938 in the offices of the Society. Representing the Farm Security Administration were Dr. R. C. Williams, Mrs. McBryde, and Messrs. Gordon Riley, E. C. McInnis, S. T. Kennedy and Samuel Lubell; representing the Louisiana State Medical Society were Drs. J. A. O'Hara, President; C. L. Peacock, First Vice-President; C. A. Lorio, President-elect; C. M. Horton, Past President; P. T. Talbot, Secretary-Treasurer; H. E. Bernadas, Councilor of the First District; D. N. Silverman, Councilor of the Second District; C. C. deGravelles, Councilor of the Third District; J. B. Vaughan, Councilor of the Fifth District; W. F. Couvillion, Councilor of the Eighth District; and W. H. Seemann, Chaille Jamison, R. W. Todd, and E. F. Bacon. This meeting was called by President O'Hara for the purpose of complying with the request of Dr. R. C. Williams relative to medical care for the Farm Security Administration families. Immediately following this conference, a special session of the Executive Committee was called and the following recommendations were approved:

"That Dr. R. C. Williams, Medical Director, or other representatives of the Farm Security Administration be allowed to approach the various parishes and submit their proposition to each society and have each society, within ten days after acceptance, refer their plan to the Executive Committee, or the President of the State Society for approval.

"That the Secretary and President, or whomever will be delegated, and Dr. Williams submit an announcement of what transpired at this meeting and the meeting with representatives of the Farm Security Administration for publication in the New Orleans Medical and Surgical Journal.

"That the President be authorized to write a letter to Dr. Williams for his use in approaching the various parish societies when attempting to formulate plans in the parishes for the proposed medical care of Farm Security Administration families in Louisiana."

The conference was initiated by the presentation by Dr. Williams of the medical care program for the Farm Security Administration families. This is printed in full below. He then presented a memorandum of understanding between physicians of ________ parish and the Farm Security Administration, which, likewise, is printed completely. The memorandum of understanding was discussed very thoroughly and in full. Following this, the actions mentioned above were then taken.

In confirmation of the action of the Executive Committee a copy of the letter that Dr. O'Hara sent to Dr. Williams is appended.

LETTER FROM DR. R. C. WILLIAMS

United States Department of Agriculture
Farm Security Administration
1504 Canal Bank Building
New Orleans, Louisiana

October 11, 1938

Dr. P. T. Talbot, Secretary
Louisiana State Medical Association
1430 Tulane Avenue
New Orleans, Louisiana

Dear Dr. Talbot:

In accordance with your request I take pleasure in submitting herewith a statement of the proposed medical care plan for Farm Security Administration families in Louisiana. There is also enclosed a suggested form of understanding for each parish medical society. It occurred to me that you might wish to print the suggested form of understanding as well as the proposed plan.

I would appreciate it if the letter which will be written to me by the President of the Association or yourself, which authorizes representatives of the Farm Security Administration to approach the parish medical societies, be addressed to me as indicated below.

The cordial reception accorded to us by your committee this morning is greatly appreciated.

Sincerely,
Signed: R. C. Williams
Medical Director
Farm Security Administration
Washington, D. C.

MEDICAL CARE PROGRAM FOR FARM SECURITY ADMINISTRATION FAMILIES

The Farm Security Administration of the United States Department of Agriculture is endeavoring to rehabilitate certain destitute and low-income farm families in order that they may again become a self-sustaining part of the social and economic life of the community. The usual program is to make annual loans to these families to attain this goal. These loans are to be repaid. They are made under the direction of trained agricultural and home management supervisors.

The applicant to be eligible to receive assistance from the Farm Security Administration must meet the following requirements:

1. He must be unable to receive satisfactory credit from any other source.

2. He must have received his last major income from farming.

3. He must have, or be able to secure, a farm on which to operate.

4. He must be in physical condition to do ordinary farm work.

5. He must be recommended by a local rehabilitation committee as appearing to have the necessary capacity and initiative to rehabilitate himself and his family on a farm.

The families who receive this credit must be able, with the aid of the rehabilitation supervisor, to carry out a practical farm-home management plan. These families in order to repay their loans must be kept in reasonably good physical condition. Provision for medical care is often an important and necessary part of the rehabilitation of a family.

There are more than 9,000 low-income farm families in Louisiana who are clients of the Farm Security Administration. It is probable that this number will be increased to 13,000 within the next few months. As a first step in developing a medical care plan for these families, representatives of the Farm Security Administration met with the Executive Committee of the Louisiana State Medical Society on October 11, and presented this problem for consideration. After a thorough discussion of the problem, approval was given for representatives of the Farm Security Administration to approach the parish medical societies in order that acceptable plans may be worked out locally to provide medical care for these families. Provision was also made that before a plan is operative in a given parish that the parish medical society submit the proposed plan to the Secretary of the State Medical Society for review.

In general, it is expected that the parish medical societies may work out a plan whereby: (a) The total amount a family borrows for medical care for a given period, usually one year, shall be within the ability of the family to pay; (b) the family shall have free choice of physicians; (c) the funds set aside for medical care shall be loaned to the client at the beginning of the operating period, placed in the hands of the trustee and pooled into a common fund.

The amount paid per family for participation will vary, depending upon the agricultural and economic resources of the family and parish. It is expected that the usual family will pay between $15 and $30 per year. A certain proportion of the funds in the hands of the trustee may be set aside at the beginning of each period for emergency needs and drugs. The remaining amount will then be divided into equal monthly allotments for the period covered.

Physicians will submit to the trustee monthly statements for services rendered the families. If the total bills for a given month exceed the amount available, all bills will be proportionately reduced and each physician paid his pro rata share. If the allotment for the month covered by the statements is adequate, the bills will be paid in full. If a balance remains, it will be carried forward and applied to paying bills for months in which funds were not adequate.

Hospitalization for these families will, in general, be provided through the State Charity Hospitals.

The parish medical societies may utilize their present schedule of fees or prepare a special uniform fee schedule for this program. It will be necessary, however, for a committee from the parish medical society to review all bills prior to payment in order to insure uniformity in charges and to see that this fund is equitably distributed to physicians rendering services. Special care should be exercised in appointing these committees as they are an essential part of the success of this program.

Plans similar to the one outlined above are operating successfully in a number of other states.

MEMORANDUM OF UNDERSTANDING BETWEEN THE PHYSICIANS OF..............................PARISH AND THE FARM SECURITY ADMINISTRATION

1. The Farm Security Administration agrees to lend its clients in .... Parish an average of $ .... per family per year to be used for medical care. This amount is based upon the ability of the families to pay as determined by the expected net income according to the farm and home plans.

2. These funds are to be placed in the hands of a Trustee, agreed upon by the physicians concerned and the Farm Security Administration Supervisor in the parish.

3. The said Trustee will be duly bonded. The cost of such bond will be paid out of these funds. His duty shall be to deposit funds entrusted to him in a bank agreed upon by the physicians and the Farm Security Administration Parish Supervisor, to keep a correct record of all clients to whom money is loaned for medical care, the individual amounts loaned to each client, and pay for medical services within the limitations fixed by this agreement.

4. That the funds so loaned these clients for medical care shall be divided as follows:

(a) Medical care and drugs..............% or $..............

(b) Emergencies, transportation and incidentals ....% or $................

5. Each client shall have the privilege of choosing any physician entering into this agreement but shall confine his choice, as much as possible, to those physicians within a reasonable distance.

6. The physician will render such services as in his opinion are necessary. At the end of each month the physician will furnish the Trustee an itemized statement of the services rendered and the charge for each item.

7. The schedule of charges for services to these clients shall be on the basis of the usual professional charge for similar services rendered people of moderate means in the same community.

8. The physicians of .... Parish will give the Farm Security Administration Supervisor a list of the names of the physicians agreeing to render services under this agreement.

9. The Farm Security Administration Supervisor of .... Parish will give to each physician agreeing to render services under this agreement a list of the clients who have paid to the

Trustee the necessary funds to entitle them to this medical care.

10. These funds will be divided into twelve equal monthly allotments and all bills shall be paid on a pro rata basis.

11. Any residue left in any monthly allotment will be carried forward to the end of the year and applied on any or all unpaid balances that have accrued, or applied on unpaid balances at such periods as the physicians may direct.

12. If at the end of the year the total amount of physicians' bills exceeds the total amount of money made available on the basis of these loans, such unpaid balance will be considered paid.

13. In the event a question is raised by any client or the Farm Security Administration Parish Supervisor concerning any statement rendered or any other matter affecting the physicians working under this agreement, it shall be referred to a committee selected by the physicians so concerned. The committee shall ascertain the facts concerning the services rendered and charges made and a recommendation from the committee shall be final.

14. It is understood that the medical services provided for under this agreement shall embrace such services as shall be performed by the family physician in the home of the client or in the office of the physician, including pre-natal, obstetrical and post-natal service. This agreement does not include hospitalization or major surgical operations. In case hospitalization is necessary, the physician agrees to render the usual assistance in placing the patient in a hospital. In the event the client makes excessive demands on physicians for unnecessary services such fact shall be reported to the local Parish Supervisor who will consider this fact, judging the clients eligibility for a further participation and benefits under this agreement.

LETTER OF PRESIDENT O'HARA

October 12, 1938

Dr. R. C. Williams, Medical Director
Farm Security Administration
Washington, D. C.

Dear Dr. Williams:

In accordance with a resolution passed at the meeting of the Executive Committee of the Louisiana State Medical Society held on October 11, 1938 at the domicile of the Society, I have been authorized to write a letter to you, as Medical Director of the Farm Security Administration, for your use in approaching the various parish societies when attempting to formulate plans in the parishes for the proposed medical care of Farm Security Administration families in Louisiana.

We have received from you a letter dated October 11, 1938 with enclosures on "Medical Care Program for Farm Security Administration Families" and "Memorandum of Understanding Between the Physicians of .... Parish and the Farm Security Administration." We notice that in these plans two of the basic principles involved have been satisfied: First, that the family shall have free choice of physicians; second, provision is made that before the plan is operative in a given parish that the parish medical society submit the proposed plan to the Secretary of the State Medical Society for review. This is to be done promptly (within ten days after acceptance by the parish society).

In view of the above facts you, as Medical Director of the Farm Security Administration and/or any of your representatives, are hereby authorized to approach the parish medical societies in the furtherance of the proposed medical care plans for Farm Security Administration families in Louisiana.

Respectfully yours,

Signed: Joseph A. O'Hara, M. D.
President

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and
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AMEBIC ABSCESS OF THE LIVER

WITH CASE REPORT*

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There is still a widespread impression that amebic abscess of the liver is a tropical disease, although the outbreak of dysentery in Chicago in 1935, whether it was of amebic origin or not, did much to dispel this fallacy. The attention of the public as well as that of the medical profession was centered on an epidemic which resulted in a number of deaths and which occurred in a midwest city far from the tropics. Foster Johns, in a personal conversation, did not believe that the epidemic was amebic in origin, but that some fulminating type of dysentery was the cause of the high mortality. Nevertheless, this essential message had been conveyed, that amebic dysentery may be found in any locality in the United States.

Craig[1], in a general survey of the population, finds 10 per cent are carriers of Endameba histolytica with relatively mild symptoms. Young and Bristow[15] found an incidence of 0.07 per cent of amebic abscess in the last 34,994 cases admitted to the Anderson County Hospital. Musser[7] estimates that 2 per cent of the cases of recognized amebiasis develop amebic abscess of the liver, which, in his experience, is the most frequent cause of subdiaphragmatic infection.

Since 1903 Sir Leonard Rogers[13] has been writing of liver abscess. He contended that infection of the liver could, and did, take place through the portal vein. The clotting of the small radicals in the liver led to softening of the tissue, with deterioration of the vascular wall, and liberation of the amebae into the actual hepatic substance. From this small beginning the inflammation spreads concentrically, with degeneration and pus formation in the center.

Ochsner and De Bakey[8] found that 41.1 per cent of their patients in a series of 73 gave no history of antecedent diarrhea. In nearly half of 36 cases which came to autopsy, intestinal lesions were found only in the proximal fourth of the colon, the lesions being limited to the cecum and ascending colon. Thus, with no irritation of the distal colon and rectum, diarrhea did not occur. As the right half of the colon is drained by the portal circulation, a lesion giving no intestinal symptoms may first become apparent as liver abscess. The right lobe is involved in 70 per cent of cases, the left lobe in 20 per cent, and both lobes in 10 per cent.[2] In the case reported in this paper, both lobes of the liver were involved in one large abscess.

SIGNS AND SYMPTOMS

The signs and symptoms produced by amebic abscess of the liver are not always uniform. In general, there is pain and tenderness over the liver region, with fever, usually of the remittent type, and a moderate leukocytosis, the average count being about 16,000, with a relatively low neutrophilic index, rarely exceeding 80 per cent. The onset is insidious. Very often the patient complains more of referred pain in the right shoulder than of discomfort over the liver region. The liver is enlarged downward in 75 per cent of cases, with tenderness on palpation in this region. The appearance is often typical; the skin is dry, harsh and of a muddy color. The patient may have lost weight and have a hacking cough, although cachexia is a late symptom. On examination, signs of consolidation may be evident at the base of the right lung.

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*Read before the Orleans Parish Medical Society April 25, 1938.

DIAGNOSTIC CRITERIA

The diagnosis is not obvious in a large percentage of cases. The history of an insidious onset, with or without antecedent diarrhea, pyrexia, pain in the right shoulder and gradual cachexia is suggestive. Any of the other signs or symptoms mentioned above strengthen the case for amebic abscess and are an indication for further examination. Roentgen ray examination may be sufficient to make the diagnosis absolute. Granger[4] considers the following signs pathognomonic of subdiaphragmatic abscess due to amebic abscess of the liver: elevation of the diaphragm, with obliteration of the cardiophrenic angle in the anteroposterior view, and obliteration of the anterior costophrenic angle in the lateral view. In cases of liver abscess without involvement of the subphrenic space, the diaphragm was found elevated, with costophrenic and cardiophrenic angles diminished, but not obliterated. In still other cases of liver abscess without subdiaphragmatic abscess a small bulging or pointing upwards into the lower lung field was seen. When pleural and pulmonary reaction about the pointing was extensive, rupture of the abscess in twenty-four to seventy-two hours could be predicted.

According to Yater,[14] hepatosplenography by means of thorotrast has proved of great value in the diagnosis of solitary abscess of the liver, with no ill effects. A stabilized colloidal solution of thorotrast is given intravenously in broken doses, and abdominal roentgenograms taken. The thorotrast remains demonstrable in the reticulo-endothelial system for a long period of time, five and a half years at the publication of this paper, with no ill effects. Should this method prove as innocuous as the first survey indicates, it will be an invaluable aid in the differential diagnosis of solitary and multiple liver abscesses, neoplasm and cysts.

The diagnosis can be finally established by aspiration and withdrawal of "chocolate-sauce" pus from which amebae may, but more often may not, be isolated.

TREATMENT

It is repeatedly stated in the literature that the majority of amebic liver abscesses are sterile. Ochsner and De Bakey[8] found sterile pus in 89 per cent of 46 cases and in 83.9 per cent of 386 cases. Because of the usual sterility of the pus, the conservative treatment offers the better prognosis, but too often proves ineffectual. For the purpose of clarification, the treatment of amebic abscess may be classified as:

1. Conservative.
    - A. Emetine therapy alone.
    - B. Emetine therapy and aspiration.
2. Radical.

Emetine is the drug of choice in the treatment of abscess because, although toxic to the myocardium, it is only amebacide which is nontoxic to the liver. Manson-Bahr[6] reports a 28 per cent cure in a series of 45 cases of amebic abscess of the liver by the use of emetine alone. In 37 per cent of the 45 cases, emetine alone failed to effect a cure.

Aspiration with amebacidal therapy offers the lowest mortality. Ochsner is of the opinion that repeated aspirations, when possible, are preferable to open drainage, as he has found a mortality of 47.2 per cent with open drainage, in a series of 4,035 collected cases, including his own, as opposed to a mortality of 6.9 per cent with closed drainage in a series of 459 collected cases. In all cases, emetine should be given before aspiration is attempted.

Every effort should be made not to contaminate the sterile abscess cavity. Aspiration should be done in the operating room, and all preparations for open drainage made should the pus prove secondarily infected on bacteriologic examination. According to Ochsner's technic, it is possible to aspirate without transversing either the pleural or peritoneal cavities. He advises the use of a trocar due to the thickness of pus. Unfortunately, it is the experience of many, including my own, that even a large trocar is sometimes of insufficient caliber.

Aspiration sometimes fails because the abscess cannot be localized. This is particularly true in cases in which the abscess is located in the dome of the liver, or in the left lobe, or anteriorly, in which case no protective adhesions are formed and there is danger of rupture of the abscess into the peritoneal cavity.

In spite of the high mortality accompanying radical treatment, open drainage is the method of necessity in many cases. When, after aspiration, pyogenic organisms are found in the pus, or when aspiration fails because of the location of the abscess, or because of thickness of the pus, open drainage is necessary.

If it is possible to strip the peritoneum from the under surface of the diaphragm, as advocated by Ochsner, and invade the abscess at the point of its adhesions with the diaphragm, thus avoiding soiling the peritoneal cavity, the chances of recovery are much increased.

As a general rule, the liver is exposed either by a right rectus incision or by a curved incision following the costal margin. The indurated wall of the abscess cavity is easily palpated as the hand is swept over the entire surface of the liver. The incision is so planned as to give the most direct possible drainage to the surface. In some cases the transpleural approach is the only feasible method. This should be done in two stages. At the first operation the diaphragmatic and parietal layers of the pleura are sutured and at the second the drainage is carried on through an incision at the point of adhesions. Even if the abscess is drained the daily dose of emetine must not be omitted.

CASE REPORT

Letter from patient: "I first felt ill on May 16, 1936. After sleeping in the afternoon I awoke and a vomiting spell followed shortly afterwards. Then vomiting ceased entirely. As illness progressed I suffered nausea and had abdominal pains. To move was painful and remaining in the same position for any length of time was painful. It was hard to say just where the pain came from, it seemed like everything on the inside hurt. On May 20, 1936 I called a physician who diagnosed my trouble as acute gallbladder. He prescribed for me and about June 1, I began to feel all right again: I gained strength, appetite was fair and apparently I was getting along all right.

"On June 21, late in the afternoon very much in the same way as previously described, I had another vomiting spell. When the vomiting ceased I felt nauseated and had fever. I ate hardly anything, keeping on fruit juice and milk. My physician was called and he believed the condition to be another attack of gallbladder and prescribed the same medicine.

"On June 26 I had severe pains in the right arm and shoulder. This was the first of what the doctor thought was neuritis. This pain gradually became worse and would move from right to left shoulder, also in the neck and later the pains moved to the stomach. The pain was so intense I was unable to tell just where it was located. During this time I was running a fever, mostly in the afternoon, from 100° to 102°.

"On July 8, I called Dr. B. and he advised x-rays immediately. I therefore went to Charity Hospital where everything possible was done to find the trouble. Roentgen rays were made of everything except the gallbladder, as I was too ill to take the dye. The x-rays showed only infections of the gums. I was told the teeth must be extracted and was referred to the dental department. The dentist in charge stated he could find only three teeth to be extracted and he advised pulling those three but not all of them. All this time I was suffering agonizing pain. Occasionally the pain would let up but it would return even worse.

"On August 17 I went to another clinic to see if they could locate any trace of Buerger's disease in the shoulders. After examination there, I was told no trace of Buerger's disease could be found in the shoulders. I was sent to the physiotherapy department for diathermy and the intense heat made me very ill. On August 19 I again visited the clinic and the same treatment was given. On August 23 the pain had left my shoulders and gone down in the stomach and I ran a high temperature.

"On August 26 x-rays were taken of the gallbladder region. These were reported as negative. August 29 during the night I had a very hard chill followed by high temperature, and a severe pain at the base of the spine; on August 30 another vomiting attack; August 31 another chill, harder than the first, with intense pains in the spine. I was unable to lie down as breathing was impossible. It was thought I had malaria as I had two chills in one day and I was put on 30 grains of quinine. The heavy doses of quinine were taken for three days but it seemed to aggravate the condition. The chills continued, sometimes every day, every other day and sometimes missed three days without any chills whatever. I had lost a lot of weight, going from 148 pounds to less than a hundred. Before the onset of the chills the pains in the shoulders, arms and neck would subside. On September 10, the day I entered the hospital, the pain increased in the right side.

"I neglected to mention that I was forewarned of the approaching chills by the terrific pains in the spine; sometimes the pain increased with the chill and would remain for an hour or more after the chill had gone."

The temperature on admission was 101.5° pulse 120 and respiration 26. The white blood count was 18,500 with 76 per cent neutrophiles, hemoglobin was 70 per cent, red cell count 4,180,000. The urine showed nothing abnormal. The blood chemistry showed findings entirely within the normal limits. The Wassermann was negative. Examination of the stool was negative for living ameba or cysts.

Several years before admission he had suffered with intense pains in the left foot. Buerger's disease was diagnosed and he was treated successfully during the winter months by passive vascular exercise. At the time of admission the left foot was colder than the right but was causing no pain.

Physical examination showed an emaciated male obviously in great pain. He coughed constantly. The lungs showed a moderately severe bronchitis and the liver was markedly enlarged downward, the free border was found approximately six inches below the costal margin.

On September 10 an x-ray was made with the following findings: Slight cardiac enlargement to the right and left; pleural thickening lower portion of the right lung with obliteration of the cardiophrenic and cardiohepatic angle; slight upward enlargement of the liver.

On September 12 the following operative notes were made: A large caliber needle was thrust through the eighth interspace in the posterior axillary line and into the liver substance. A large quantity of pure venous blood appeared at once in the barrel of the syringe under such pressure that it slowly forced out the piston. The needle was partially withdrawn and a puncture of the liver was made in a more downward direction; blood again appeared. The ninth interspace was then entered and blood again appeared. The needle was at once withdrawn and a four inch incision was made extending from a point slightly to the right of the midline and parallel with the costal margin. The rectus was incised and the incision carried down approximately 5 inches. The liver was found to extend almost down to the level of the anterior superior spine. Congestion was so intense that it seemed it was about to burst through Glisson's capsule. Manual exploration of the dome was negative, but a large indurated area was found just to the right of the falciform ligament of the anterior surface of the right lobe. Straight Mayo scissors were plunged into the area at a depth of about two and a half inches and a large quantity of pus was evacuated. The space between the liver and the peritoneum was packed off with gauze. An effort to suture the peritoneum to the capsule was futile as the capsule was exceedingly friable and the liver bled freely. The opening into the abscess cavity was enlarged and about 8 ounces of chocolate colored pus was recovered by suction. Two rubber drains and two soft rubber tubes were inserted. The wound was then partially closed and a massive dressing applied.

On September 15 x-ray examination showed: A marked enlargement of the liver with a thickened pleura, involving the costophrenic angle; lipiodol outlines a large cavity in the right and left lobe of the liver which is probably a large abscess cavity which is rather irregular in shape. On September 23 x-rays revealed: Opaque media outlines large cavity in the right and left lobe of the liver, cavity much smaller than in previous x-ray examination. On September 29, x-ray examination showed: Lipiodol outlines very small abscess cavity, involving the right lobe of the liver; cavity almost entirely obliterated; marked improvement since last x-ray examination.

DISCUSSION

Before admission to the hospital this patient had seen six different physicians and had been examined at two institutions. The x-rays taken of the lungs and liver were reported negative and doubtless the findings which were so obvious at the time of admission to this hospital were absent when the other examinations were made.

I do not wish to give the impression that the injection of lipiodol had anything to do with the rapid healing of the abscess; however, the injection of the opaque media allowed me to form a very accurate idea as to the size of the cavity and gave me a clue as to when the drain might safely be removed.

The patient reported two months after his discharge from the hospital. His weight was 145 pounds and he was able to carry on all of his business arrangements and had for the first time in many months attended a dance.

CONCLUSIONS

1. Amebic abscess of the liver occurs more frequently than was formerly realized, and with or without a history of antecedent diarrhea.
2. The diagnosis is based on the following findings: Enlargment of the liver with pain; fever and leukocytosis; typical roentgenographic findings.
3. The treatment of amebic abscess may be

conservative or radical. In any event, emetine therapy should be administered.

4. Aspiration therapy offers a lower mortality, but is sometimes impractical because of location of the abscess, thickness of pus, or the presence of pyogenic organisms in the pus.

5. Open drainage should not be delayed when aspiration has failed.

6. A case of amebic abscess of the liver is presented, which presented difficulty in diagnosis and in which aspiration failed. The patient recovered with open drainage.

7. The injection of lipiodol into the abscess cavity facilitated the accurate appraisal of the progress of healing of the abscess.

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MALIGNANT HYPERTENSION*

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As a preliminary to a study of the renal changes, particularly the vascular ones, that accompany essential hypertension, we have selected for presentation a group of cases that often may be separated by their unique clinical course, and identified definitely by their histologic picture. We will devote most attention to the clinical picture, and include only those pathologic features that seem to possess a definite clinical implication.

In 1928, Keith, Wagener and Kernohan[4] described 81 cases of hypertension which they called malignant hypertension. These cases, the first to be described in this country, were characterized by marked hypertension, usually adequate renal function and what they considered a characteristic retinitis, including particularly edema of the optic disc. Patients placed in this category showed a rapidly fatal course, death occurring within one to fifty-one months. The most common symptoms were headache, vertigo, weakness and visual impairment. The systolic blood pressure varied from 220 to 280 mm. of mercury and the diastolic from 120 to 190 mm. of mercury. There was definite impairment of renal function in only seven individuals in this group. Every one had papilledema. Death resulted from cerebral accident, cardiac failure, or uremia. They distinguish this syndrome from benign hypertension and chronic glomerulonephritis by the younger age incidence, the retinal picture, and the frequently normal renal function. Nothing more characteristic than a

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"diffuse general hypertrophy of the arterioles" was found in seven cases examined postmortem.

This term had been employed fourteen years previously by Volhard and Fahr[10] to denote those cases of essential hypertension in which renal arteriolosclerosis led to renal insufficiency. In one group arteriolosclerotic contraction of the kidneys was enough to explain the failure of renal function. In another, however, this explanation was not adequate, and on the basis of the histologic picture they postulated the co-existence of renal arteriolosclerosis and acute glomerulonephritis, their so-called "Kombinations Form". They soon found this view untenable and each adopted a different hypothesis. Volhard[9] now believes that the pathologic picture is the result of severe generalized vasospasm, with renal ischemia. Fahr[2], who first employed the phrase "malignant nephrosclerosis" to describe the kidneys in cases of malignant hypertension, felt that a toxic factor was causative; specifically, syphilis, rheumatic fever, or lead poisoning.

Bell[1] uses the term "chronic hypertension with acute uremia" to distinguish a group of cases showing rapidly progressive uremia, and indicates that the clinical picture and accompanying vascular changes are merely the manifestations of an accelerated type of essential hypertension. On the other hand, MacMahon and Pratt[7] believe that malignant hypertension is both a clinical and pathologic entity, and while it may occasionally be a terminal complication of benign hypertension, it is a distinct and separate disease. Only 60 per cent of their patients died in uremia. Fishberg[3] denotes by the term "malignant phase of essential hypertension" those cases of essential hypertension "which are characterized anatomically by the presence of necrosis and endarteritis of the renal arterioles and clinically by acutely progressive renal insufficiency." As we will show, our studies lead us to concur in the essentials of Fishberg's concept.

SELECTION OF MATERIAL

It is evident therefore that the term malignant hypertension has been used clinically with widely diverse meanings. It is used variously to refer to all patients with essential hypertension dying in uremia[10], the onset of an acute uremia in the course of essential hypertension[1], a rapidly fatal disease characterized by marked hypertension but not necessarily terminating in uremia[7], marked hypertension with a characteristic retinal picture[4], and lastly, a rapidly developing uremia which is characterized anatomically by malignant nephrosclerosis[3]. Since it would obviously be impossible to subscribe to all of these criteria in the selection of cases, we have been forced to use as a basis for our choice renal anatomic lesions which, when occurring diffusely and in combination, cannot be confused with other inflammatory or vascular renal diseases. These lesions are arteriolo- and glomerulonecrosis and "obliterative endarteritis." We do not wish to minimize the importance of "obliterative endarteritis", but since its presence can be demonstrated in patients who obviously, both from a clinical and anatomic standpoint, suffered from benign hypertension or chronic glomerulonephritis, we have insisted on the presence of arteriolonecrosis as a primary requisite of a malignant nephrosclerosis. Because the serious renal complications of both hypertension and chronic glomerulonephritis are fundamentally vascular, it is not surprising that the clinical manifestations should frequently be confusing, as we will later attempt to show. Hence our choice of cases has been made without reference to the clinical syndrome, and is based purely upon an anatomic consideration, namely, malignant nephrosclerosis. In doing this, we hoped to determine whether a constant clinical picture existed, on the basis of which a clinician could confidently predict the presence of malignant nephrosclerosis.

MALIGNANT NEPHROSCLEROSIS

Incidence. During the years 1935, 1936, 1937, inclusive, we were able to find in the postmortem protocols of the Charity Hospital of Louisiana at New Orleans, 27 cases that showed the histologic picture of malignant nephrosclerosis. In this same period, there were 470 postmortem examinations in which there were evidences of benign nephrosclerosis and hypertension. Forty-three per cent of postmortem examinations on adults over 19 years of age in this interval were made on white bodies and 57 per cent on colored. In the group of benign nephrosclerosis, there were 125 white males, 55 white females, 180 colored males, and 110 colored females, or 180 (38.3 per cent) in whites and 290 (61.7 per cent) in negroes. By weighing these percentages for the proportion of whites and negroes in the entire postmortem series, we find that for benign nephrosclerosis there is a colored-white ratio of 55:45. This seems to confirm the increased incidence of essential hypertension in the colored race that has been observed in other studies.

When the cases of malignant nephrosclerosis are examined, it becomes apparent that there is a tremendous preponderance of negroes in our series; we had one white male, one white female, 14 colored males, and 11 colored females. Thus 7.5 per cent of our cases were white, 92.5 per cent colored. Weighing these figures, again, we derive for malignant nephrosclerosis a colored-white ratio of 90:10. Of 182 cases of essential hypertension in white patients, two (1.1 per cent) were malignant, while of 315 cases in negroes, 25 (7.9 per cent) were malignant. These data show strikingly the greatly increased likelihood of development of the malignant phase in essential hypertension in the colored, as contrasted to the white race.

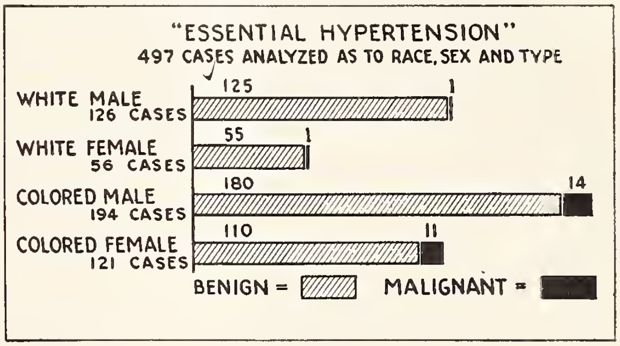

FIGURE 1

Immediate Cause of Death. Of the 470 cases showing benign nephrosclerosis, 276 (58.8 per cent) died of congestive heart failure; 31 (6.6 per cent) died in uremia; 88 (18.7 per cent) died either of cerebral hemorrhage or cerebral infarction; 75 (15.9 per cent) died of miscellaneous causes, either vascular (seven cases), such as gangrene, mesenteric thrombosis, or dissecting aneurysm, or from causes unrelated to the hypertension, such as malignancy, pneumonia, or tuberculosis. If we add to these our 27 cases of malignant nephrosclerosis, making a total of 497 cases, the figures for the mode of death become: heart failure, 55.5 per cent; uremia, 11.7 per cent; cerebral hemorrhage or infarction, 17.7 per cent; and unrelated causes of death, 15.1 per cent (table 1). By considering only the 395 patients with benign hypertension who died from their hypertension directly, 69.8 per cent died of cardiac failure, 7.8 per cent of uremia, and 22.4 per cent of cerebral disease. Of all the hypertensive patients, both benign and malignant, whose death resulted directly from hypertension, a total of 422 cases, 65.4 per cent had a cardiac death, 13.8 per cent a renal and 20.8 per cent a cerebral death.

TABLE 1
ESSENTIAL HYPERTENSION
Immediate Causes of Death

	Congestive heart failure	Cerebral hemorrhage or infarction	Uremia	Miscellaneous
Benign (470 cases)	276 (58.8%)	88 (18.7%)	31 (6.6%)	75 (15.9%)
Malignant (27 cases)	0	0	27	0
All cases (497)	276 (55.5%)	88 (17.7%)	58 (11.7%)	75 (15.1%)

Race. Since all of our patients with malignant nephrosclerosis died in uremia, we have examined the group with benign nephrosclerosis in uremia for the distribution according to race. Twelve cases (38.7 per cent) were white and 19 (61.3 per cent) were colored, giving figures practically identical with those for race distribution of the whole benign group. Hence we may conclude that the colored patient with benign hypertension is no more likely to develop renal insufficiency than a white one, although, as we have stated, he is far more likely to pass into the malignant phase of the disease. A negro patient with essential hypertension in uremia is seven times more liable to have the malignant form than is a white patient.

Age. The age varied from 25 to 59 years, with an average age of 38. The averages for males and females are not significantly different, being 38.5 and 37 years, respectively. Most of the ages ranged between 34 and 47 years (table 2).

TABLE 2
MALIGNANT NEPHROSCLEROSIS
Age Incidence

	No. cases	Average age	Age range
White male	1	34 years	
White female	1	46 years	
Colored male	14	38.5 years	26 to 59 years
Colored female	11	37 years	24 to 59 years
	27	38.0 years	

Symptomatology. During the progress of the disease, visual disturbances, consisting of scotomata, dimness and blurring of vision, and often almost complete blindness, were noted by 15 patients. Fourteen patients complained of nausea and vomiting, 14 of dyspnea, and 12 of headache. Every patient experienced one or more of these four symptoms. The frequency of other symptoms is tabulated (table 3).

TABLE 3
MALIGNANT NEPHROSCLEROSIS
Symptomatology

1. Initial symptoms	
Visual disturbances	8
Headache	6
Nausea and vomiting	6
Dyspnea	5
Vertigo	2
Edema	2
Weakness	1
Paresthesia	1
2. Incidence of symptoms	
*Visual disturbances	15
*Nausea and vomiting	14
*Dyspnea	14
*Headache	12
Vertigo	9
Edema	9
Nocturia	8
Weight loss	6
Weakness	5
Anorexia	5
Palpitation	4
Precordial pain	2
Hemoptysis	2
Paresthesia	2
Diarrhea	1
Nervousness	1
Epistaxis	1
Vaginal bleeding	1
Hematemesis	1
Bleeding gums	1

*Every patient had one or more of these symptoms.

Physical Findings. The blood pressure was uniformly elevated. The lowest systolic pressure was 155 mm. of mercury, but all others were 200 mm. or over, the highest being 286 mm. The average systolic pressure was 242 mm. of mercury. One diastolic pressure was 102 mm. of mercury; the remainder ranged from 120 mm. to 196 mm., with most of the values lying between 140 mm. and 170 mm. The average diastolic pressure was 150 mm. of mercury.

The heart was found to be enlarged in 15 instances, and was of normal size in the remainder. Apical and basal systolic murmurs were frequently noted, and the aortic second sound was often markedly accentuated. There was edema of the lower extremities in seven patients, hydrothorax or rales in the lungs in five, and hepatic engorgement with ascites in three. A total of nine patients showed physical evidence of cardiac failure. Dyspnea was associated with these signs, but when present either with or without heart failure, was most often of the Kussmaul type, due probably to the uremic acidosis. Anemia was commonly observed clinically and confirmed in most instances by hematologic study. Hemiplegia was present in two instances.

Fundus examinations were recorded in 13 cases. In one there was bilateral detachment of the retina. In the remaining 12, typical hypertensive retinopathy of marked degree, with vascular changes, hemorrhages, and areas of "exudate" were observed. In 10 of these specific mention is made of edema of the optic disc.

The spinal fluid pressure was measured in six cases. In two of these it was normal, 6 and 8 mm. of mercury, while in four it was markedly raised, 20, 24, 52, and 56 mm. of mercury, respectively.

Laboratory Findings. Initial examinations of the urine showed no abnormalities in two cases, but subsequent examinations of the urine of these patients showed, as did all the examinations in the remainder of the cases, definite urinary evidence of renal disease. Early urine specific gravities ranged from 1.004 to 1.030, with changes toward isothenuria as the disease progressed. Proteinuria was found in each case, moderate in 13, marked in 14. Red blood cells were present in the urine of 14 patients, and were numerous in eight of them. White blood cells were more often present, though not in such great numbers. Fourteen cases excreted urine containing casts of the granular type.

Every case showed definite evidence of renal retention of nitrogenous metabolites. Values for blood non-protein nitrogen varied from 133 mgm. per cent to 274 mgm. per cent; blood urea nitrogen from 65 mgm. per cent to 268 mgm. per cent; blood creatinine from 6 mgm. per cent to 24.5 mgm. per cent. Determination of phenosulphonphthalein excretion was done in six instances, with results varying from 0.5 per cent to 25 per cent of the amount injected.

The blood Wassermann reaction was positive in only one individual, though there was a history of a syphilitic infection in five more. This incidence of syphilis is no greater than would be found in any comparable series of patients without malignant nephrosclerosis.

Duration of the Disease. The exact duration of the illness of these patients was difficult to determine. Three patients entered the hospital in a comatose condition, and the details of their history were meager. Most of the patients were in the terminal stage of their disease, as was evidenced by the fact that the average stay in the hospital until the time of death was only 7.1 days, and in 15 instances was less than a week. Many of the patients gave a history of symptoms commonly associated with benign hypertension, such as headache, palpitation or slight dyspnea on exertion for variable periods of time, some as long as three years. We have attempted to determine from the records the onset of the terminal symptoms, the date on which there was a change in the symptomatology or acute development of a new symptom. On this basis the average duration of the terminal symptoms was approximately 67 days.

PATHOLOGY

The extrarenal lesions were those which often occur during the terminal stage of of uremia. Acute fibrinous pericarditis was present in two cases and hemorrhagic enterocolitis with or without ulceration in five. A terminal bronchopneumonia was observed in twenty cases. There were 24 instances of recent mild passive congestion of the liver, six of mild dependent edema, two of ascites, and three of "heart failure" cells within alveolar spaces. This indicates that congestive heart failure played a relatively unimportant role during the progress of the disease occurring usually in the terminal stage. The heart was enlarged in 26 of the 27 cases, the average weight being 485 grams. The hypertrophy was predominantly left ventricular. Seventeen of the hearts showed microscopic myocardial scars, none of which were of important size. The coronary arteries were not thoroughly examined in all cases, but where mention was made, arteriosclerosis was not severe enough to lead either to important narrowing of the lumen or thrombosis. Arteriolosclerosis of the splenic vessels was observed in all cases. Unfortunately only ten sections of pancreas were available for study but in all of these arteriolosclerosis was present. None of the pancreatic vessels were necrotic but splenic arteriolonecrosis was present in two cases associated with corpuscular necrosis. Multiple necrosis of the spleen existed in only one case.

The gross appearance of the kidneys was characterized by two constant features; namely, petechiae (flea-bitten kidney) and granularity of the surface. The weights of the kidneys varied from 90 to 215 grams, the average weight being 130 grams. Both of the extremes represented single instances where the weight was below 100 grams or above 200 grams.

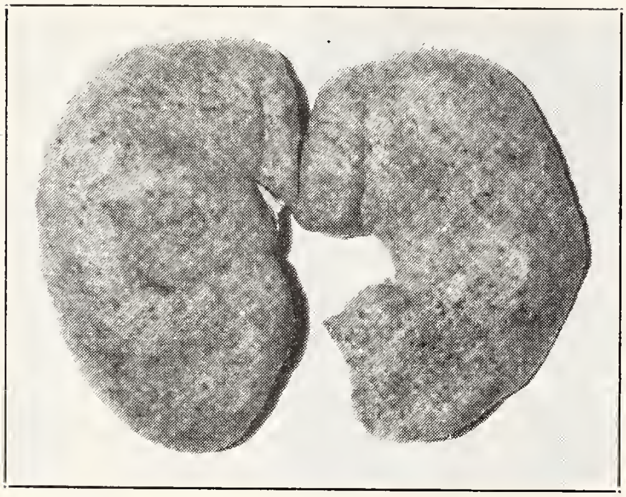

Fig. 2. Photograph of the kidney of malignant nephrosclerosis. Note the granular surface and the numerous petechiae which give it the "flea-bitten" appearance.

Arteriolonecrosis, characterized by the absence of a sharp vessel outline with a thick, granular, smudgy wall infiltrated with a few red blood cells and only an occasional polymorphonuclear leukocyte, was a constant microscopic feature. In two instances, an aneurysmal dilatation ruptured at the site of necrosis and caused interstitial hemorrhage. Glomerulonecrosis accompanied this lesion in 22 cases. In the five specimens where glomerulonecrosis was absent, marked degenerative changes in the glomerular endothelium and epithelium accompanied by an infiltration of leukocytes indicated that the glomeruli had suffered from ischemia. The number of necrotic arterioles varied from one to eleven in an average sized section of the cortex. There was no relationship between the number of the necrotic arterioles and the age of the patient, the duration of the severe symptoms or the degree of retention of non-protein nitrogen. In fact, with regard to age, the oldest patient (59 years) had the largest number of necrotic arterioles and the youngest had the least.

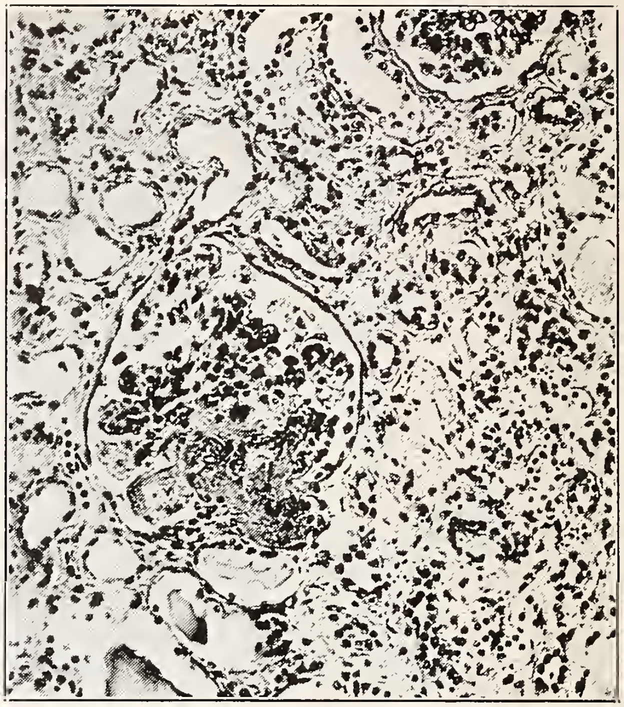

Fig. 3. Photomicrograph of afferent arteriole. Note the "smudged" appearance of the arteriolar wall due to necrosis with practically no inflammatory cell response.

A second striking vascular lesion, "endarteritis obliterans" or "productive endarteritis", of the interlobular arteries, was constantly present. Marked subintimal connective tissue proliferation with an occasional foam cell between the fibrils, a minimal degree of splitting of the internal elastic lamellae and no cellular infiltration identified this vascular lesion. The diameters of the lumens of the vessels were markedly reduced and occasionally completely occluded. We are in agreement with Bell, and Klemperer and Otani[6] that the changes in these vessels represent rapidly developing arteriosclerosis and not inflammatory lesions as the name "endarteritis obliterans" would indicate. We

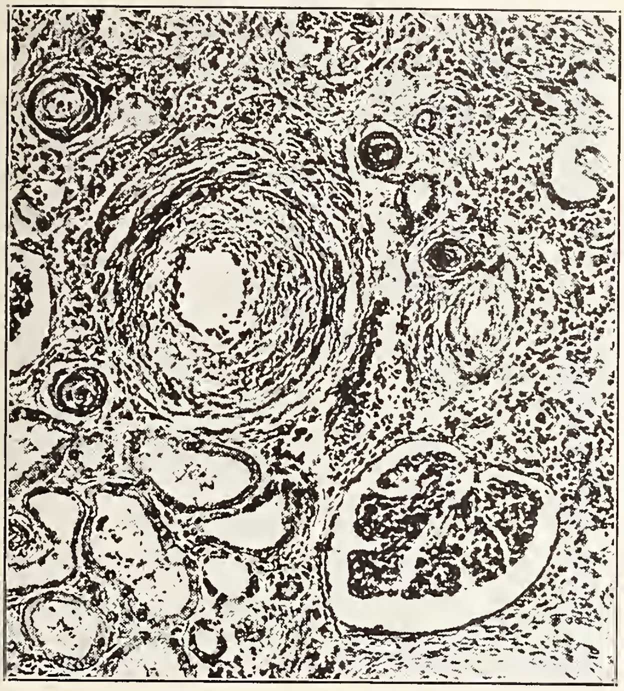

Fig. 4. Photomicrograph of renal arteries. Note the arteriolosclerosis and the "obliterative endarteritis" of the larger vessel.

are also in agreement with Klemperer and Otani that this vascular change plays an important role in the production of renal insufficiency. The lumens of the arterioles were also reduced in size by a similar proliferative response. Hyalinized arterioles were present only in small numbers in the majority of the cases. An occasional vessel showed degenerative changes of the wall resembling the fibrinoid degeneration described by Kimmelstiel.[5] Six of the cases showed well formed glomerular crescents and eight additional cases had definite glomerular epithelial proliferation. The crescents were never numerous, the largest number being two in one section. The infrequent presence of hyalinized glomeruli emphasized the relatively shorter duration of the lesion as compared to benign nephrosclerosis. Approximately one-half of the kidneys showed at least one tubule in each section that contained polymorphonuclear leukocytes. These were considered to be secondary to the glomerular and tubular necrosis. Except for hemorrhage into the glomerular spaces, into the tubules draining the involved glomeruli, and into the interstitial tissue as a result of the rupture of a necrotic arteriole, the remaining renal findings were those commonly seen in benign nephrosclerosis.

COMMENT

The clinical picture in cases with malignant nephrosclerosis is remarkably uniform; this is likely due to the fact that every patient studied showed a markedly elevated blood pressure and a rapidly progessive uremia. We feel that these features may readily be accepted as explanatory of all of the clinical manifestations described above, with the possible exception of the disturbances in vision. Papilledema was constant in those cases in which mention is made of the optic disc; increased intracranial pressure may play a role in its production and would certainly increase it were it already present. However, it can scarcely be the fundamental causative factor since the spinal fluid pressure was normal in two of our patients with edema of the optic disc.

The details of the clinical syndrome are dependent upon the longer or shorter duration of the pre-existing benign hypertension. The pathologic findings indicate that hypertension and arteriolosclerosis must have been present for a period far longer than that during which the patient had subjective symptoms. Surely a contracted kidney of 90 gm. or an enlarged 650 gm. heart results from a disease that has existed longer than would be suggested by a history of failure of vision or nausea and vomiting for a few weeks or months. This is more striking because of the relatively low average age of this group. We therefore conclude that this condition is one mode of termination of benign hypertension with nephrosclerosis.

The uniformity of the clinical picture presented by patients who have the renal anatomic findings of malignant nephrosclerosis indicates that this lesion is associated with a fairly constant clinical syndrome which, for want of a better term, can be called malignant hypertension. Although we were unable to establish any etiologic relationship between this disease and syphilis, lead poisoning, rheumatic fever, or other factors that have been suggested, the age and sex distribution of our cases was quite similar to those reported by other authors. This would suggest that malignant hypertension is characterized by a fairly definite clinical picture. In order to test the validity of this suggestion, two groups of cases were selected whose postmortem findings showed that renal insufficiency was due either to marked benign nephrosclerosis or to chronic glomerulonephritis, each with typical histopathology. The clinical histories of these cases were then reviewed and compared with those of a similar group of patients known to have malignant nephrosclerosis, and an attempt was made to segregate the three groups. This could not be done with accuracy. A review of the clinical diagnoses made by the various clinicians, under whose care these patients had been, showed no greater accuracy in predicting the anatomic lesion. Patients whose clinical course well justified the diagnostic impression of malignant hypertension were often found at postmortem examination to have either chronic glomerulonephritis or severe nephrosclerosis without, however, arteriolonecrosis. When one considers the fact that the entire group had two fundamental factors in common, namely, severe renal vascular disease and renal insufficiency, this is not surprising.

We were forced to admit, therefore, that although malignant nephrosclerosis is accompanied by a fairly uniform clinical picture, the clinical syndrome called malignant hypertension is not pathognomonic for this lesion. We believe that these findings justify our insistence upon the presence of a definite histologic lesion before assigning a case to this group, and show the fallacy of selecting such cases on purely clinical grounds.

It was observed above that a uremic colored patient suffering from the renal end-stage of essential hypertension is seven times more likely to have the malignant type than a white patient. If malignant hypertension (anatomically, malignant nephrosclerosis) represents accelerated vascular changes that occur in benign nephrosclerosis, it would follow that those patients, who gradually developed uremia as a result of marked benign nephrosclerosis, represent a stage of essential hypertension intermediate between the non-uremics and those with malignant nephrosclerosis, who all die in uremia. We should therefore expect to discover a higher incidence of benign nephrosclerosis with uremia in the colored race, as compared to the white. Termination in uremia, however, was equally common in the two races. This might be taken to mean that although every case of malignant nephrosclerosis also showed the anatomic lesions of benign nephrosclerosis, some additional factor is responsible for the destructive lesions of the malignant cases. We are unable to explain this racial predominance satisfactorily, but cannot dismiss the observation as being of no significance.

SUMMARY

Twenty-seven patients have been studied whose kidneys showed arteriolonecrosis. The terminal clinical picture presented by these individuals is uniformly that of marked hypertension and rapidly progressive uremia. Other features are dependent upon the duration of the pre-existing benign nephrosclerosis and hypertension. Cardiac failure and cerebral hemorrhage may be present in patients whose myocardium or vascular system have been previously damaged, but their symptoms are merely superimposed on those of renal insufficiency.

We have stressed the validity of considering this as a pathologic entity, and the possible sources of error in attempting to derive a corresponding clinical one.

The racial incidence, with its implications, has been discussed.

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DISCUSSION

Dr. Edgar Hull (New Orleans): I consider this study of Drs. Decherd and Schenken an important piece of work, since so far as I know it is the first time a purely anatomic basis has been used in the selection of cases of malignant hypertension for a study of its clinical picture. I think their criteria of arteriolar and glomerular necrosis are valid ones, because the most constant lesions in cases of hypertension occur in the kidneys.

From Dr. Decherd's remarks I gather that clinical differentiation between malignant hypertension and chronic glomerulonephritis is often impossible, but would like for Dr. Decherd in his closing remarks to dwell briefly upon some specific criteria which we have considered to be important in differentiating these two conditions: first, the past history of an acute nephritis; second, the duration of the disease; third, the actual height of the blood pressure; and fourth, the acuteness of the uremic picture. It has been my impression that in malignant hypertension the blood pressure is much higher than in glomerulonephritis, the symptoms of much shorter duration, and that death occurs much sooner once uremic manifestations have appeared. In glomerulonephritis I have observed a more chronic type of uremia, in which symptoms of renal insufficiency have preceded death by several weeks or even months, whereas in malignant hypertension the patients often lapse into coma and die within a few days after the first uremic symptom.

Dr. C. C. deGravelles (New Iberia): I would like to know if the pathology of the kidney is due to hypertension or whether hypertension is due to pathology of the kidney?

Dr. G. M. Decherd, Jr. (In closing): We were very disappointed to find that the clinical syndrome characteristic of malignant hypertension can also be shown by patients with chronic glomerulonephritis. This was particularly striking in one patient, a description of whom will, I believe, answer the questions raised by Dr. Hull.

This young individual had a rapidly progessing uremia with a history of only a few months' duration, and blood pressure higher than we are accustomed to associate with chronic glomerulonephritis, 250/180. His spinal fluid pressure was elevated and there was edema of the optic disc. Accumulation of the non-protein nitrogenous products in the blood was most rapid. This patient, we felt, was clinically malignant hypertension, yet anatomically he showed chronic glomerulonephritis. We met with the same experience in other cases, and found that a very similar picture could be produced by benign nephrosclerosis without arteriolonecrosis, and, as in one instance, chronic pyelonephritis. Hence we have been forced to conclude that the clinical picture is not pathognomonic, and that we do not believe that we can predict the pathologic lesion from the clinical picture.

I believe that we would be willing to take the position that the renal arteriolar changes are due to the hypertension, not that the hypertension is due to renal vascular disease.

STAB WOUNDS OF THE HEART

A CASE REPORT WITH A NOTE ON SOME SPECIAL PROBLEMS*

ALBERT LLOYD CULPEPPER, M. D.
ALEXANDRIA

From prehistoric times until well into the modern era the fatal outcome of wounds of the heart was accepted with resignation, and until almost the turn of the last century the very idea of cardiac suture was looked upon with extreme disfavor by leaders of surgical opinion. Since the pioneer efforts in gastrointestinal surgery had had a very cold reception from surgical confreres, there is something ironic in the recollection that it was the great Billroth who in 1875 delivered himself of the following tirade: "Paracentesis of the pericardium is an operation which in my opinion approaches very closely to that kind of intervention which some surgeons would term a prostitution of the surgical art and others madness." He added, apparently as an afterthought, "Perhaps another generation will think otherwise," but he made it quite clear that he was not of it by returning to the subject in 1883 with the statement, "The surgeon who attempted to suture a wound of the heart would lose the respect of his colleagues." When Stephen Paget, in 1896, fell into the same trap into which others had already fallen, by declaring that "The surgery of the heart has reached the limit set by nature to all surgery; no new discovery can overcome the natural difficulties that attend a wound of the heart," two unsuccessful attempts at cardiac suture had already been made, and it was only a few months later that Rehn performed the operation on a patient who survived.

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*Read before the Louisiana State Medical Society at New Orleans, on May 3, 1938.

The time has long since been passed when cardiac suture can be classed as a surgical curiosity. To the medical as well as to the lay mind, however, there is still something dramatic and breath-taking in the idea of attacking life at its source, so to speak. Ballance's nonchalant remark that the surgeon looks upon the operation as part of the day's work finds no general agreement, for it is an experience that does not come to all surgeons—the great DaCosta, for instance, lamented that he had never sutured a heart—and it is exceptional for any man to see more than one or two such cases during his entire lifetime. On the other hand, the reports of Beck, Cutler, Bigger, Mayer and others are highly significant, for they illustrate the fact that such wounds are more frequent and more amenable to cure than is generally supposed. Bigger's experience is typical. Up to 1930 no cardiac suture had been attempted in his clinic. By January, 1936, 11 such operations had been done, seven of which were successful. In the light of this experience it seems reasonable to insist that cardiac damage should be suspected in all wounds involving the cardiac area, and that all such patients should be given the chance offered by surgery.

The overwhelming preponderance of negroes in the reported cases of cardiac suture is very striking, and we might almost go further and say that heart wounds should be suspected in all the individuals in this race who exhibit wounds of the chest. My own patient, a negro male of 35 years of age, presented a rather characteristic history. He had no previous illness, but enough violent injuries to prepare him for the present ordeal, including a laceration of the throat in an automobile accident, a gunshot wound of the sternum, and a head injury received in a fight. According to his own story he was a quiet, harmless man, of good habits, who never smoked and who got drunk only over the week-end.

CASE REPORT

The patient was seen at 2:15 p. m. July 25, 1937, 15 minutes after he had been stabbed in the left chest by his wife. She had struck him from the right of the chair in which he was sitting, with an ordinary pocket knife. The patient after the operation said that he had felt no great pain, but had become weak and dyspneic immediately, and could not speak. After he had walked half a block he was obliged to sit down on the curb, where he remained until he was brought to the hospital by a passing motorist. He was semi-conscious when he was first seen, and there was a strong odor of alcohol on his breath. His skin was cold and clammy, and the radial pulsation and the blood pressure could not be determined. The respiration was 34 per minute, very shallow, and there was a distinct lag of the left hemithorax on inspiration. Blood exuded freely and continuously, though without pulsation referable to the cardiac or respiratory rates, from a small transverse stab wound, 1½ cm. long, in the fifth costal interspace at the left laterosternal margin. Hyperresonance was revealed by percussion of the left chest, and diminished breath sounds by auscultation. The heart rate was 128 per minute, and normal in quality. There was a moderate degree of rigidity in the epigastric area. X-ray of the chest revealed no positive findings. A blunt probe was introduced into the wound for a distance of 4 cm., at which point a definite pulsation was felt, corresponding to the heart beat. A cannula with a syringe attached was then substituted for the probe, and 3 c.c. of blood was aspirated, presumably from the pericardial cavity. An infusion of 250 c.c. of physiologic saline solution was given, very slowly, while the operating room was being prepared.

Operation was done under light ethylene-oxygen anesthesia. An elliptical incision, 12 cm. long was made along the left sternolateral margin, extending from the fourth to the sixth costal cartilage, with the concavity toward the sternum. About 4.5 cm. of the fifth and sixth costal cartilages was resected, and the internal mammary and the intercostal arteries and veins were clamped. The respiration by this time had become very rapid, the heart was beating furiously, and spurts of blood appeared through a blood clot which overlay the pericardial wound, the spurts corresponding to the respiratory and cardiac efforts. The pericardial wound, which was 1 cm. long, was enlarged to 4 cm., and 100 c.c. of blood was removed by aspiration from the pericardial sac. The cardiac wound, which was about 1 cm. in length, was located in the conus arteriosus of the right ventricle. It was easily closed by a figure-of-eight suture of 00 chromic catgut, reinforced with two interrupted sutures, after the heart had been stabilized first by very gentle traction with an Allis forceps and then by a traction suture of 00 chromic catgut. Another 50 c.c. of blood was aspirated from the pericardial sac, which was left open. Plain 0 catgut was used for the transfixion ligatures on the arteries and veins. The pleura was closed with chromic 0 catgut, the pectoral muscles with mattress sutures of chromic 1 catgut, and the skin with a continuous lock suture of fine dermal. A small rubber tissue drain was left in the pleural cavity.

The anesthesia was continued for 20 minutes after the operation was completed, in an attempt to re-expand the left lung, and carbon dioxide and oxygen were given for another hour. The patient was then removed to his bed and a nasal catheter inserted, through which oxygen was given continuously for 36 hours, and thereafter as indicated. A transfusion of 500 c.c. of citrated blood was given at the conclusion of the operation, after which the blood pressure rose to 100/60 and the pulse dropped to 128. A second transfusion was attempted on the fifth day but was discontinued when the patient developed a reaction which lasted 45 minutes and was associated with a temperature of 104.6° F. by axilla, a pulse of 150, and a respiration of 44.

Within two hours of operation the patient was completely conscious, and asked to go home; at that time his pulse was 108, of good volume, and his respiration 28. Morphia was given freely to control restlessness, and his condition otherwise was entirely satisfactory for 24 hours. Then a rather alarming ileus developed, which responded slowly to routine measures including Wangensteen decompression. Twelve hours later the patient became quite dyspneic, and an area of dulness at the left base was evident on percussion; the blood pressure at this time was 90/50 and the pulse rate 140. After the aspiration of 225 c.c. of blood from the pleural cavity the dyspnea was promptly relieved and the blood pressure rose to 105/60. Roentgen ray on the eleventh day showed considerable cloudiness in the left chest, suggestive of pneumonia or hemorrhage, and on the thirteenth day there was evidence of a pleural effusion extending to the left apex; the condition cleared up spontaneously. The drain was removed at the end of 48 hours, and I regret its insertion, for it was probably responsible for the wound infection which lasted almost four weeks. The patient was discharged from the hospital on the seventeenth day, and remained in bed at home until the forty-fifth day. On the sixtieth day he resumed his usual occupation at a gasoline station. He has remained well. Roentgen ray and fluoroscopic examination of the chest November 12, 1937, revealed no abnormality of any sort.

This is in many respects a typical case, including the fact that the patient was a negro who received his injury in a marital quarrel.

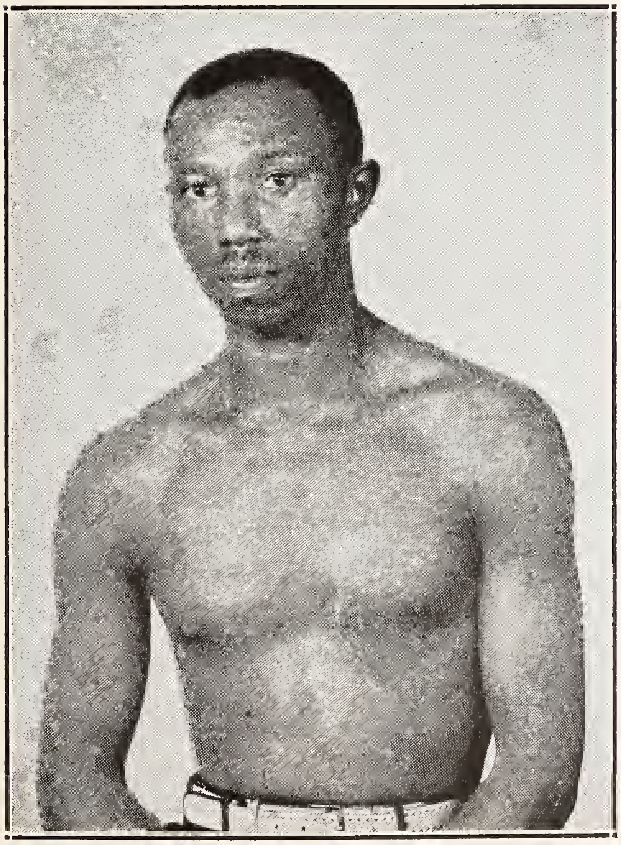

Fig. 1. The postoperative appearance of the wound.

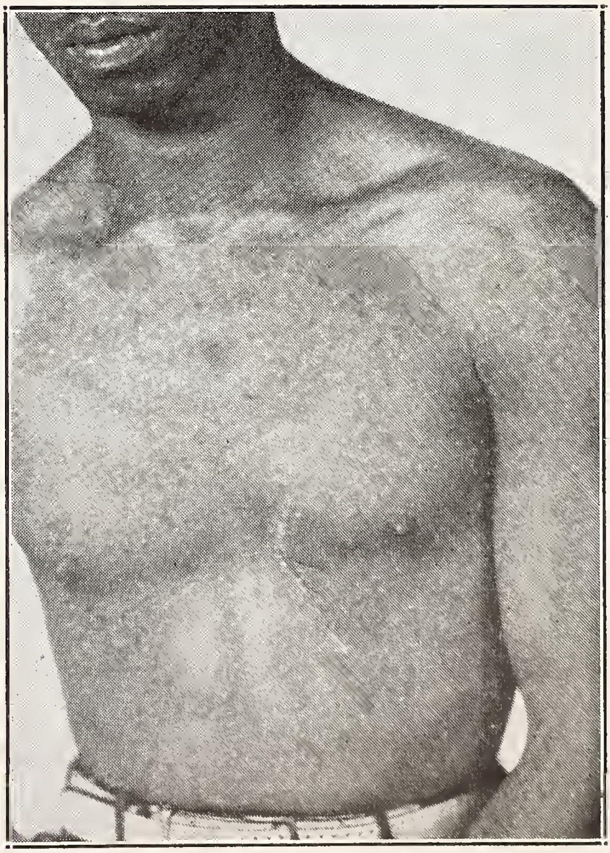

Fig. 2. Close-up of the postoperative scar.

His symptoms were determined only after he had been operated on; in such cases the history usually cannot be secured, or is entirely unreliable. He was able to move about after he had been hurt, a fact which by no means eliminates cardiac injury; Elkin reports a case in which the injured man fought for ten minutes after he had been wounded. The bleeding was typical of wounds which are amenable to repair. Patients with large wounds die promptly of hemorrhage, and only small wounds such as this one develop a latent period, so to speak, in which repair is possible before sufficient blood has been lost to cause shock per se, or before fatal tamponade has developed. The wound was in the right ventricle, where the second largest number of such wounds occur. Finally, the convalescence was attended with every possible complication. Some of these considerations may be briefly discussed.

SYMPTOMS

The patient with a wound of the heart has very little pain, but he is restless and frightened, and complains of great thirst. The skin is clammy, the extremities are very cold, and the cold sweat which covers the body often collects in pools. The respiration is sighing and irregular, and the pulse comes and goes, disappearing early from the peripheral arteries. The blood pressure is usually lower than in hemorrhage. The degree of circulatory collapse is out of all proportion to the blood loss. The peculiar combination of cyanosis and extreme pallor, as Bigger notes, distinguishes the condition from ordinary shock, in which cyanosis is frequently absent early. The superficial veins, especially the jugular veins, are very prominent, the blood being dammed in the great veins because the blood flow throught the vena cava is obstructed.

When tamponade is present, the heart sounds are increasingly indistinct and muffled. If hemothorax develops, the typical signs are obscured, but there may be, as Bigger observed in three of his own cases, a splashing or churning sound synchronous with each heart beat. Negative x-rays are to be discounted and positive findings do not usually appear early. Bigger has found fluoroscopic examination extremely valuable, and considers diminution or cessation of the cardiac pulsations almost pathognomonic. Electrocardiograms are of interest, but offer no help in early diagnosis. After operation, as early as eight hours, according to Bigger and Porter, they reveal changes typical of coronary occlusion, which may persist for weeks and months.

Aspiration of blood from the pericardial sac, as in this case, is positive for proof of injury. If it is done carefully to avoid damage to the heart and coronary system, it is of both diagnostic and therapeutic value. Singleton, who is a strong advocate of this procedure, reports a personal case in which the withdrawal of 250 c.c. of blood from the pericardium resulted in such miraculous improvement that operation was not necessary. The method is a rational one, for cardiac tamponade is a purely mechanical condition, due to the accumulation of the blood within a fibrous sac which is not readily distensible. Unless the fluid is removed and removed very promptly, the muscular wall of the heart will give way before the relentless pressure of even so small an amount of blood as 150 or 200 c.c. Indeed, speed is the essence of cardiac surgery in such cases. Operation must be done very promptly, even if, as Elkin suggests, part of the usual aseptic routine must be sacrificed. Various methods of approach have been devised, but any method which requires division of the sternum is too time-consuming under emergency circumstances, and too likely to add to the shock which is already actually or potentially present. The parasternal approach is swifter, it gives a reasonably satisfactory exposure, and the pleural damage which it causes is not very important, since the original wound usually penetrates the pleura.

The heart wound must be located and the hemorrhage controlled without delay, a procedure which is not usually technically difficult, but which is often terrifying because of the spurts of blood which obscure the field. The incision may be closed by digital pressure temporarily, but the finger should never be pressed into the wound, because of the friability of the cardiac muscle. For the same reason forceps should be applied with the greatest caution, and should be replaced by a traction suture as soon as possible. Compression of the base of the heart may be necessary to control the hemorrhage, but should be done very gently, and never for more than two minutes, as Kiser (quoted by Maingot) has shown.

Bullock points out the importance of completing the operation even if the patient seems to have died. He reports a most dramatic case of his own in which he believed he was working on a cadaver until, after the application of the second cardiac suture, the heart began to "crawl" in his hand. In view of the large number of reported cases in which operation was discontinued because the patient died on the table, it would seem the part of wisdom to consider no patient dead until the operation has been completed and all possible methods of revival attempted.

TREATMENT OF SHOCK

Shock before and after operation is combated by the usual methods. Opinions differ as to the wisdom of infusion and transfusion before operation, some contending that the risk of increasing the hemorrhage and aggravating the mechanical difficulties outweighs the advantages, and others taking the opposite position. There is no question, however, as to their value after operation, and autotransfusion, as employed by Watson, is worth considering in the absence of a compatible donor.

If signs of tamponade become evident after operation, repeated cautious aspiration is warranted. Morphia should be used freely to control restlessness and the frequent delirium due to cerebral anemia. Empyema is a distinct possibility, but it would seem wiser to reserve drainage until the necessity for it arises, rather than to provide drainage at the original operation on the chance that infection may develop. Because these accidents are prone to occur in drunken brawls, delirium tremens is not an uncommon complication; Mitchell mentions such a patient, a negro with a wound of the left ventricle, who was so thoroughly soaked with alcohol that he never needed any other stimulation. Mayer's report of an eleven year old boy who developed whooping cough during his convalescence is something of an anticlimax to the drama of cardiac surgery, but excellent proof of the fact that any sort of complication may be looked for.

Wounds of the left ventricle cause rapid and serious tamponade and a large proportion of the patients die before they are seen by the surgeon. On the other hand, if the wounds are small, the thick walls tend to prevent serious hemorrhage. Wounds in this location, according to Bigger, offer the most favorable prognosis, while wounds of the posterior or base of the heart are not usually amenable to surgical repair.

SUMMARY

The mortality of cardiac suture is difficult to estimate, for successes are likely to be reported and failures to be forgotten. In 1906, ten years after his first successful operation, Rehn collected 124 surgical cases with a recovery rate of 40 per cent. Ramsdell in 1932 collected 428 cases with a recovery rate of 54.5 per cent. In 1933 Bigger collected 70 cases with a recovery rate of 70 per cent. In 1908 Matas wrote that it might be concluded that heart wounds offer three in four chances of survival long enough for surgery, one in ten chances of spontaneous recovery, and one in two chances of surgical cure. Since the chances of surgical cure have materially improved in the thirty years that have elapsed, there seems no reason why today every victim of cardiac trauma should not be granted the chance which cardiac suture offers.

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DISCUSSION

Dr. J. A. Danna (New Orleans): We hear more about heart wounds now than before only because they are looked for at the time that the patient is first seen. I have had the good fortune of having had two cases of heart wounds. The first case I did not recognize as heart wound. I thought it was a wound of the internal mammary and went into and removed it and four costal cartilages in order to have plenty of room to open and then saw an opening of the pericardium.

There are two types of heart wounds seen in the clinic. One where the wound is so large that the patient dies almost immediately. The other is the type that Dr. Culpepper had the good fortune of seeing, where the wound is small and there is sufficient time to do surgery. There is an interval where the patient feels comparatively all right. He may feel faint and weak but he is able to walk and able to move around; and finally there is a period where the bleeding in the pericardium crowds the heart and interferes with the function and there develops a rapid, weak pulse and the patient collapses.

There is a feeling that the handling of a heart wound is an extraordinary thing. As a matter of fact it is one of the simplest things that we do surgically. You can make an incision through the skin and expose the external border and remove a couple of costal cartilages without any anesthesia at all and once removed the pericardium is easily exposed and readily opened and the heart exposed very clearly. There should be as little manipulation or handling of the heart as possible. There is reason for haste until you close the heart but once you have exposed the heart and pressure is relieved the heart picks up and the patient improves. Make sure that you have sutured the wound in the heart so that there will not be a leak; be sure that there is no other bleeding spot or wound which has escaped notice. Also look for a possibility of a wound of the lung. If the wound has been from the side you are very apt to have a lung wound. I had one patient who died thirty-six hours after operation from bleeding of the lung. This was before the days of transfusion. If it happened today he probably would have lived.

There is a tendency to feel that a pneumothorax following an operation of this kind is a dangerous thing and that the air should be removed. If you have a wound in the lung or in the pleura which may be a slow leak and you remove pneumothorax and air and expand the lung there is an increased negative pressure that will cause increase in bleeding. In other words a moderate amount of pneumothorax, if the patient is apparently in good condition, is much more apt to do good than harm. As Dr. Culpepper stated, drains should not be used in these cases as they will probably do much more harm than good.

Dr. I. Mims Gage (New Orleans): It is seldom that we meet with this cardiac condition. However, I think we all should be prepared to meet it. One thing that Dr. Culpepper used that I think he should have stressed more was a probe in the wound. I have found that to be very advantageous in determining if the wound went to the heart. In the case we had the probe went down into the pericardium and the end of the probe moved with the heart and the only other means of diagnosis was that there was very little pulsation on fluoroscopic examination. This is very suggestive.

In regard to the matter of exposure of the heart, I do not believe that we should be in such a hurry that we disregard all of our teaching concerning sepsis.

I wish to say a few words in regard to the case I had. A negro had a stab wound of the heart and abdomen and chest. Upon entering the hospital he was brought out of shock by infusion and transfusion. We sutured the wound in the right ventricle of the heart under local anesthesia and used a wide piece of cotton soaked in saline and pressed to the heart to introduce suture. We sutured the injury in the abdomen and treated the chest wound. He had an uneventful recovery.

The important thing in doing cardiac surgery is the introduction of fluid, mainly blood, at the time of operation. This patient of mine had 1800 c.c. of blood while on the operating table and 3000 c.c. of five per cent glucose.

I would like to state at this time that in operating on the heart the pleural cavity should not be opened. Also be sure to have sufficient donors at the time of the operation.

Dr. A. L. Culpepper (In conclusion): I should like to thank Dr. Danna and Dr. Gage for this discussion as they have brought out several points not found in the literature. Moreover I feel that Dr. D. C. McBride, who assisted me at operation, deserves thanks.

THE PRESENT STATE OF THE INSULIN AND METRAZOL SHOCK TREATMENTS OF SCHIZOPHRENIA*

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Most of you are probably acquainted with the essentials of the new methods of treatment of schizophrenia which have been started in Europe and which, in the last two or three years, are being tried out in many places in this country. A fairly large literature has already been published on this subject. It reflects the usual development of medical opinion about a new method, beginning with distrust and skepticism, passing over to enthusiastic confirmation, and ending up in a quiet, critical attitude of moderate approval. Although this last stage of development has not yet been attained in the case of the shock treatment of schizophrenia, there are certain signs noticeable that this will be the case very soon. Anticipating this event, I believe it may be fit to summarize the present state of affairs, illustrated with as much experience of my own as I was able to gather.

INSULIN TREATMENT

Insulin treatment is somewhat older than metrazol treatment. The former was started in 1932 in Vienna by Manfred Sakel, and soon afterwards in Munsingen, Switzerland, by Muller. After some hesitation, a generally adopted technic of insulin treatment has been formulated by the Polish psychiatrist Frostig, which only recently has been published in this country in English translation.[1] The usual procedure is, after having established the diagnosis and the general state of health of the patient, ruling out all forms of organic disease of the cardiovascular system, the lungs, and the kidneys, to start with a dosage of 15-20 units, given at 7 o'clock in the morning, on an empty stomach. The dosage is increased, day by day, by 5-10 units, until the shock dosage is reached. This generally occurs at a dosage of between 80 and 120 units. Usually the shock starts about one and a half hours after the intramuscular injection. During this period of incubation, the patient goes often through a stage of excitement. The exact beginning of the coma can never be established, since it comes on gradually. It is characterized, in the majority of cases, by profuse perspiration, salivation, and stertorous breathing. The neurologic picture varies considerably not only with different patients, but also with the same patient at various stages of the coma. In my own observations, carried on in the male Insulin Ward of Harlem Valley State Hospital, N. Y.*, I had the impression that more or less the same pattern was kept by the individual patient throughout his treatment. Some of them would lie quietly, apparently sound asleep, throughout the coma. In many others, breathing difficulties would periodically occur, respiratory crises with considerable choking. This seems to be largely due to profuse salivation and mucous secretion and aspiration of these secretory products into the bronchi. Turning the head sidewise, pressing the jaw forwards, or insertion of the nasal tube are usually helpful. In other cases, neurologic signs of cerebral stimulation or release of subcortical centers would occur; twitchings in the face or in the extremities, jerky movements of the entire body, and, sometimes, tonic convulsions of the upper extremities which, as far as I know, have not been observed in any other condition but in insulin coma: both arms extended and closely adducted toward each other in front of the body, the forearms and hands in extreme pronation. While this position reminds one, to some extent, of tetany, it is not identical with it. Sometimes there seems to exist a relationship between the respiratory crises and the extension cramps described; the latter seems to be provoked by the respiratory crisis and can be stopped together with it.

The pulse rate and the blood pressure often vary considerably in the same patient during the same shock; both may be low at times, and then rise, for some time, far above the normal rate. It seems that insulin provokes, periodically, an antagonistic hyperactivity of the adrenal medulla which accounts for sympathicotonic symptoms. Then this secondary adrenalin shock is conquered again by insulin, so that the vegetative symptoms turn in the opposite direction. Adrenalin and insulin seem to interact with each other like the two sides of a scale which has been brought out of balance. Epileptiform convulsions are not a regular symptom of the insulin shock. Sakel considers an epileptic seizure occurring in the beginning of the coma as harmless, and no reason for terminating the shock; whereas, when it occurs two or more hours after the beginning, immediate termination is indicated.

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*Paper read at the meeting of the Orleans Parish Medical Society, April 25, 1938.

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*I want to thank Superintendent Dr. Ross and Senior Psychiatrist Dr. Rossman for their kind hospitality at Harlem Valley State Hospital and the most valuable information I obtained through them and their staff.

TERMINATION OF SHOCK

Every shock has to be terminated by glucose ingestion. Usually, after a duration of the shock of about three hours, a nasal tube is inserted, by which 33 1/3 per cent glucose solution is poured into the stomach. This is the only part of the treatment which sometimes offers some technical difficulty. There is the danger, in a comatose patient, of the tube being inserted into the trachea instead of the esophagus, which can only be prevented with some experience. I saw no complication arising from intubation in several hundred shocks.

In case of emergency, or when the patient does not wake up 20 minutes after intubation, glucose solution is given intravenously, usually with immediate success.

METRAZOL TREATMENT

Metrazol treatment is technically much easier to administer and requires practically no special apparatus at all. Its contraindications are about the same as for insulin. A careful general examination, including urinalysis, blood chemistry and fluoroscopic examination of the chest is absolutely indicated. One experience of my own makes me believe that the preceding examination of the cardiovascular system cannot be too careful. It was the case of a 31 year old female patient, suffering from schizophrenia of the hebephrenic type for two and a half years. The general examination performed by a very competent internist turned out entirely negative. There was, according to the report, a slight systolic murmur at the basis of the heart which, not being organic in origin, did not contraindicate treatment. The first two injections, with 4 and 4½ c. c. respectively, only produced some clonic twitchings in both upper extremities, and were well tolerated. After the third injection, in which 5 c. c. were given, the result again consisted only in a few clonic twitchings, without loss of consciousness. Immediately afterwards, however, the patient became pulseless and remained so for about five minutes. She recovered without any further medication; but there was a rather poor pulse, with increased rate, for the next 24 hours. Of course, treatment was immediately stopped. It seems to me that this experience teaches us to reconsider the problem of indication in one point: it is not only the question whether the patient will be able to stand the strain of a grand mal attack. Metrazol is a medicament which has, in smaller dosages, a direct stimulating influence upon the heart action. It is logical to assume that the complication in my case, in which no grand mal seizure occurred at all, was due to the overdosage of the drug itself, as far as its cardiac effect is concerned. It seems that this overdosage can cause serious disorder whenever there is even the slightest myocardial deficiency which never produced any symptoms worth while. I decided, therefore, to include an electrocardiogram in the routine examination of prospective metrazol cases, even when there are no clinical symptoms of myocardial deficiency.

According to the literature published, metrazol treatment has caused very few fatalities up to date. It is important to keep its record clean.

The intravenous injection of usually 5 c. c. of metrazol solution ought to be given quickly, in order to have the drug reach the brain in the highest possible concentration. I never had to go beyond a dosage of 7 c. c. in my hitherto experience; it seems to me a rule to be generally established to keep the dosage as low as possible, just because of the possible cardiac complication mentioned above.

The seizure itself has all the characteristics of a typical grand mal attack. It is usually initiated by slight coughing, which is followed by convulsive yawning; this already marks the beginning of the convulsions. The usual pattern of the latter includes a first clonic stage, followed by tonic convulsions, and terminated by a second clonic stage. After the spell is over, the patient still remains unconscious and, usually, after some minutes, goes into a stage of motor restlessness, tossing around, sitting up, trying to get out of his bed. After some minutes, when restlessness has passed, he goes into a stuporous state, obviously disoriented, not answering questions or obeying commands. This may last for half an hour or more. Then he often goes to sleep and wakes up with complete amnesia for the attack, except for the aura-like discomfort or anxiety which introduced it. It seems that this aura is exceedingly unpleasant, which accounts for the fact, observed by others as well as by me, that the patient's resistance against the treatment often increases with every injection.

The injections are given before breakfast, two or three times a week. Alkalizing diet is supposed to be helpful to induce the seizures; I do not believe, however, that it is necessary. The treatment consists of between 15 and 30 injections with subsequent shocks. We have, however, no actual knowledge about whether these figures are right, as far as the lower and the upper limits are concerned.

RESULTS OF TREATMENT

The results of both the insulin and the metrazol shock treatments seem to be equal, as far as hitherto literary reports can tell. Of course, the number of cases treated and published is by far lower for metrazol than for insulin. It is, however, to be expected that the ratio will be just the opposite in two more years, due to the fact that metrazol is so much easier to give and does not require any special apparatus, medical supervision for five or six hours a day, or specially trained nurses.

I do not intend to give you an analysis of the results published in the literature. Let me just mention the figures published at the beginning of the insulin era by Sakel and Dussik and by Muller of Munsingen. Sakel and Dussik reported in cases of less than six months' duration 73 per cent full remissions and 10 per cent social remissions; Muller, 76 per cent full remissions and 9 per cent social remissions. In cases of six to 18 months' duration, published by Muller, there were 53 per cent full remissions and 29 per cent social remissions. The number of relapses observed is given with 10 per cent of the successfully treated cases. Relapsing cases, however, can undergo another shock treatment and be benefited, sometimes even more so than the first time.

It might be interesting to compare with these first statistics of insulin treatment, some figures contained in most recent American publications: C. M. Holmes[2] reports about 16 patients from Rockland State Hospital, of whom 11 were cured or improved. Most of them were cases of more than six months' duration. Hastings[3] treated 41 patients in Pennsylvania Hospital; 15 of them recovered, six of whom relapsed. When 10 cases of long standing are excluded, the rate of improvement is 45 per cent. Freed[4] reports about 41 cases from the Philadelphia General Hospital, 29 of which were successful, including 16 complete remissions. The majority of these cases were of more than six months' duration. There was a partial recovery in a case of five years' duration. There was also one fatality. Zozaya[5] treated 13 patients in Gladwyne Colony, Pennsylvania; three were cured, four improved.

As can be seen, there is some decline in the reports, as far as the results are concerned. Still it has to be acknowledged that even the less brilliant successes are remarkable enough.

DISCUSSION

Criticism applied to the hitherto experiences may use two different lines of approach; the one refers to the diagnosis. Frostig, in his attempt to standardize the indication, method of treatment and notation of results, is not very definite as far as the problem of diagnosis is concerned. In fact, he does not even mention its actual difficulty. This seems to me to be almost insoluble in quite recent cases. I missed several occasions of giving shock treatment in cases of less than six months' duration, simply because I felt that the existence of schizophrenic symptoms still does not prove that this is a case of schizophrenia and not an acute toxic or metabolic process causing a schizophrenic reaction which is likely to clear up spontaneously and never relapse. In order to utilize, statistically, cases of less than six months' duration, the differential diagnosis would have to be discussed in all detail for every single case. I wonder how much of the statistics published about recent cases would remain if this rule were followed quite strictly. This objection holds, though to less extent, even for cases of between six and 12 months' duration. Unfortunately, in those cases of "schizophrenic reaction" which recover spontaneously after several months, the original diagnosis of schizophrenia, if it has been made, is usually changed afterwards. These cases, therefore, do not appear in the statistics of spontaneous recoveries in schizophrenia as given by the hospitals. In order to be fair, one would either have to exclude from the statistics of shock treatment every case of less than one year's duration, or one would have to include in the statistics of spontaneous recoveries from schizophrenia all those cases of acute or subacute, toxic, or metabolic psychoses which offered a schizophrenic picture and possibly would have been diagnosed as such, if they had not recovered while still in the hospital. This, of course, would increase the rate of spontaneous recoveries considerably above 10 per cent.

One fact has to be mentioned which seems to favor our suspicion about the correctness of the diagnosis in many recent cases. Most reports agree in the point that paranoic types give better results than others. Now it is obvious that paranoid dementia precox with its delusions and hallucinations is more likely to be mixed up with certain forms of toxic psychoses. At least, one would have to exclude from the statistics the recent cases which had a rather acute onset with a delirious state.

The second objection concerns the form of controls used in order to compare the rate of spontaneous recoveries with those due to shock treatment. It is remarkable that some reports about spontaneous recoveries go as high as 39 per cent which comes already pretty close to the rates of insulin successes. This may be partly due to differential diagnostic difficulties, which have been mentioned above. But we have also to consider another fact: The usual attitude of doctors and attendants toward chronically insane patients is one of resignation and hopelessness. After the diagnosis of schizophrenia and the prognosis "incurable" is made, the therapeutic activity and the interest of the entire staff are more or less reduced to taking physical care of the patient. This is perfectly justified, considering the fact that the staff in most state hospitals is just sufficient, or not even that, to give full attention to the hopeful cases. This fact, however, is most unfortunate for the so-called incurable patient. He is not supposed to improve, and so he does not. Of course, the attitude of the staff changes in the moment when recovery is considered possible, as, for instance, when the patient is admitted to the insulin ward. He comes under close observation; every day the doctors and the attendants enter into conversation with him and try to elicit signs of improvement. This constitutes, by itself, some form of psychotherapy in addition to planful psychotherapeutic attempts which are combined, in some hospitals, with shock treatment. Who can tell how many of those apparently hopeless cases would have improved under this form of psychiatric treatment, without either insulin or metrazol? This certainly constitutes a source of possible error in all statistics. It could only be ruled out by matching the number of patients who undergo shock treatment with an equal and, as much as possible, similar group of patients who are kept under exactly the same conditions, but without any shock treatment. Even thus, we do not know how to discard the naturally biased expectations of the staff, which, as a psychologic factor on the latter's side, may account for some unconscious discrimination between the treated cases and the control group.

In order to obtain a really clear-cut picture of the effectiveness of shock treatment, this strict form of control will have, sooner or later, to be used on a large scale. We do not believe that the result will be really disappointing. Attempts have been made at curing schizophrenia by other methods, and they have proved rather unsatisfactory, even without strictly critical methods of control. The almost unanimous confirmation of Sakel's and Meduna's results all over the world gives us hope that at least 50 per cent of the enthusiasm aroused will be justified by further observation. And this is already more than we would have dreamed of ten years ago. Furthermore, if it should turn out that therapeutic optimism and keen interest in every single patient is a necessary help and an essential factor of recovery, in case of shock treatment as well as in the rest of them, this insight itself would be worth while.

SUMMARY

Insulin shock treatment and metrazol shock treatment have both proved to be very important attempts at the cure of schizophrenia in an entirely new way. The hope is justified that they mark a new era of psychiatric therapy. Careful indication is required in order to keep the rate of fatalities and undesirable complications as low as possible. Particularly, as far as metrazol is concerned, its direct stimulating effect upon the heart action and possible danger in case of latent myocardial diseases ought to be considered. An electrocardiogram ought to be included in the initial general examination of every patient. Final judgment about the value of these methods cannot yet be passed. In recent cases, the problem of diagnosis still remains to be solved. In all cases concerned, proper controls ought to be used, matching similar groups or individual patients, treated and non-treated, in order to rule out the error which may arise from the curative effect of accidental factors. By the latter, the psychotherapeutic influence is meant, in its largest sense, including the psychologic attitude of the staff.

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PROTAMINE INSULIN IN THE TREATMENT OF DIABETES MELLITUS*

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Two years have passed since the introduction of protamine insulin in the treatment of diabetes mellitus and, while final conclusions may not yet be justified, this period of trial is probably sufficiently long to warrant at least tentative evaluation of this material. Prior to the work of Hagedorn, diabetic patients requiring insulin were using only the unmodified preparation of the pancreatic hormone now most commonly known as "ordinary" insulin. It seems advisable before entering upon a discussion of protamine insulin, to review the properties of this "ordinary" insulin and to point out what can and what cannot be accomplished by its use in the treatment of diabetes mellitus.

OLD INSULIN

Quoting Peters and Van Slyke, "the maximum effect is usually obtained about an hour after the administration of the drug . . . The action continues, growing rapidly less, for some hours." In the early days of the use of "ordinary" insulin in the treatment of diabetes there prevailed both a tendency to minimize the period of duration of the action of the extract and a tendency to exaggerate the ease with which a hypoglycemic reaction might be produced. When it was learned that the effect of the extract lasts for some hours and that most often a rather large overdose could be given without precipitating insulin shock for several hours after a meal, the practice of making the morning dose of insulin take care of both the breakfast and the lunch was adopted. In the same manner it was found that the evening dose of insulin could be made to take care of both the evening meal and the overnight rise of blood sugar which is so common in people with moderately severe and severe diabetes. As a consequence, most diabetic patients were taking no more than two doses of insulin per day prior to the introduction of protamine insulin. There remained, however, the very severe group, particularly the juvenile diabetics, who still required three or more doses of insulin daily. It was the existence of this group which stimulated the search for some means by which the action of insulin might be prolonged. Protamine insulin is the result of this search. For the purpose of this discussion it seems important to consider the use of protamine insulin in the two groups of cases separately.

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*Read before the Orleans Parish Medical Society, April 11, 1938.

THE GROUPING OF PATIENTS

Of those diabetics who are adequately managed with two doses of "ordinary" insulin daily, the milder group can be easily put on a single injection of protamine insulin. This group requires no further discussion. The more severe cases, i. e., those who require two large doses of insulin daily, present a great deal more difficulty. The rearrangement of the diet and the insulin dosage to avoid severe reactions and at the same time to keep the urine sugar-free usually requires considerable time and patience both on the part of the patient and on the part of the physician. In addition, particularly in older patients, the use of protamine insulin in large doses may be attended by considerable danger. At this point it is necessary to state that two disadvantages accompany the use of protamine insulin in large doses in older persons, and in persons with heart disease. First, is the impossibility of predicting the time of occurrence of possible hypoglycemic reactions; and second is the greater severity of hypoglycemic reaction in those using protamine insulin compared with those using "ordinary" insulin. Severe insulin reactions in these persons are often accompanied by disastrous cerebral and cardiac complications. A further disadvantage common to all groups of cases but probably more important in the older group is represented by the fact that the use of large doses of protamine insulin requires even greater care in observing the diet, and particularly in timing the meals, than is necessary with the use of two doses of ordinary insulin a day.

In view of these considerations it seems important to examine closely the advantages which might accrue to these patients before deciding to change them over to protamine insulin. It would seem that the individual who maintains a constantly sugar-free urine with two doses of "ordinary" insulin a day is offered only one advantage by protamine insulin and that is he might reduce the number of injections from two to a single injection each day. It is true that with protamine insulin, the diurnal blood sugar is maintained at a more constantly low level than with "ordinary" insulin. Whereas this may appear to be an advantage it has actually never been proved that such a state of affairs exerts any particularly beneficial effect. It certainly does not prevail in the normal individual and therefore may actually be considered unphysiologic. The advantage obtained by the reduction of the number of doses from two to one per day, which is purely a matter of convenience, will not outweigh the possible dangers in some of these cases.

Protamine insulin is of greatest value in those patients with very severe diabetes, particularly the juveniles, who require three or more doses of ordinary insulin daily. With protamine insulin, many of the cases which could not be rendered sugar-free without the precipitation of frequent insulin shocks can now be satisfactorily controlled with one or two injections of protamine insulin per day at times supplemented by "ordinary" insulin. However, at this point it is necessary to emphasize that this problem has not been completely solved by the new form of insulin.

In juvenile diabetics, it is occasionally impossible to maintain the glycosuric state from day to day without the frequent occurrence of insulin reactions. This difficulty is probably in greatest part attributable to the marked daily variation which characterizes the physical activity of children. The influence of physical exercise upon the blood sugar of the diabetic taking insulin is well-known. That this effect of exercise is of sufficient magnitude to be of clinical importance is demonstrated by the occurrence of hypoglycemic shock following undue exertion even in adult diabetics who have been under perfect control for a long time. It is a matter of common observation that children show glycosuria during days of comparative rest and that they develop hypoglycemic shock on days of strenuous activity. Hence it is not surprising that there has been found to exist a limit to the results that can be obtained with protamine insulin in some of these children with rather severe diabetes.

EFFECTS OF PROTAMINE INSULIN

The headaches encountered with the use of protamine insulin constitute only a minor difficulty as a rule and can usually be eliminated by rearrangement of the diet or reduction of the dose of insulin. This phenomenon is encountered in very few cases. Occasionally the injection of protamine insulin produces considerable reaction in the skin. This difficulty may often be obviated by introducing the material deeper in the tissues.

The use of protamine insulin in the treatment of diabetics with surgical complications should not be attempted except by one who has had considerable experience with such cases. It should be obvious that protamine cannot be used in situations where immediate insulin action is necessary. Protamine insulin finds its greatest usefulness in surgical cases as a means by which the immediate postoperative period can be managed. The administration of a dose of protamine insulin just prior to the operation eliminates the danger of insulin reactions during the operation and renders the diabetes much easier to control during the succeeding twenty-four hours. This period with "ordinary" insulin alone is usually one of great uncertainty. The bulk of the burden of handling any surgical case should be placed on "ordinary" insulin for the reasons first, that insulin requirements in these cases change rapidly in both directions, and second, because nourishment during this period is a matter of great uncertainty.

COMA

Diabetic coma is also an emergency demanding the rapid insulin action possessed by "ordinary" insulin. However, protamine insulin may be of great aid in overcoming the uncertainty which generally prevails a few hours after treatment has been instituted, when the patient is beginning to respond both chemically and clinically. Usually at this time we are more or less at a loss to know how much insulin to give. In utilizing protamine insulin to eliminate this dilemma a large dose of protamine insulin may be given at the time the patient is first seen and then treatment pursued with "ordinary" insulin, as if the protamine insulin had not been given.

SUMMARY

Protamine insulin makes it possible to keep under satisfactory control many diabetics who could not be controlled formerly with "ordinary" insulin alone. However, a few of these patients, particularly juvenile patients cannot be satisfactorily controlled even with protamine, although they generally do better than they did formerly with "ordinary" insulin alone. Possible reasons for the difficulty encountered in the management of juvenile diabetics have been discussed. Protamine insulin makes it possible in many cases to reduce the number of injections of insulin necessary, but certain disadvantages which characterize the use of protamine insulin probably outweigh this advantage in elderly patients and patients with cardiac disease who require large doses of insulin. In surgical cases and in diabetic coma the usefulness of protamine insulin is greatly limited, and should be attempted only by those with considerable experience.

DISCUSSION

Dr. Philip H. Jones, Jr., (New Orleans): I think Dr. Gardberg's remarks on the subject of protamine insulin are very helpful and timely. It is to be expected that protamine insulin will continue to be used, and we must therefore know something of its benefits and something of its dangers.

The experience of most people using it is that the shock comes on more insidiously, can be appreciated by the patient with more difficulty and by the doctor with more difficulty. It is suggested that the symptoms and decline in blood sugar, arising more slowly, do not bring out the response from the adrenals that accompanies low blood sugar from regular insulin. It is these symptoms of adrenal action that are so spectacular in the usual insulin shock, and they are absent in protamine insulin; the detection of shock is more difficult to perceive.

On the other hand, we have a note of conservatism in the report of a certain group using protamine insulin for the treatment of schizophrenia. In the group of young schizophrenics, it was impossible to bring on convulsions in approximately one-half, the duration of coma was shorter than with the regular insulin, and the degree of prostration was much less than in insulin shock in schizophrenics treated with regular insulin. So it is learned from that experience that while protamine shock may come on unperceived, it will probably do as much damage as other kinds of insulin shock.

It is quite possible that protamine insulin has increased the doctor's difficulties in diabetes. On the other hand, patients are too keenly aware of the difference between one and two needle punctures a day to allow the use of regular insulin to go on when they can get protamine. Unquestionably, the greatest service of protamine is in benefiting the juvenlie diabetic, in many of whom the diabetic condition could only be controlled by very tedious adjustments of regular insulin, and occasionally this proceeds to the point where some of these children have to have insulin at midnight.

Dr. Manuel Gardberg (In closing): I just wanted to emphasize that reactions produced by protamine insulin are dangerous, particularly in the elderly, cardiac group of diabetics. The degree of shock that the human organism can stand is really astounding. I have had the opportunity of producing and observing insulin shock in the treatment of schizophrenia, and have found that young persons can stand a great deal more than I had thought they could. These patients are rendered completely unconscious, to the point of continuous twitching, some to convulsions, and are kept in this condition for periods lasting as long as two and a half hours. Yet, later in the same day they may be seen playing tennis. Older persons do not tolerate insulin shock nearly so well; cerebral and cardiac complications are common in older people with insulin reactions. I have produced heart failure, anginal attacks, and cerebral thrombosis with insulin in my own patients. In younger persons, reactions five times as severe do no harm.

In protamine reactions it is not necessarily the degree of insulin shock produced, but the great difficulty experienced in alleviating the shock, which is cause for concern. At times it is necessary to remain with the patient for as long as four hours and give the patient repeated injections, or administrations by mouth, of sugar, and to wait an hour or so after each administration to be sure that the patient will not relapse into shock. Old persons are not going to withstand such reactions very well. When we give protamine in large doses, the time that the reaction will occur is absolutely unpredictable; it may occur eight hours or it may occur 24 hours after injection, and during that time the patient is in some danger, if there is advanced sclerosis or cardiac disease. Certainly, if we want to use protamine insulin in large doses in elderly sclerotic patients, or in patients with heart disease, the patient should be in the hospital.

THE TREATMENT OF TULAREMIA*

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Tularemia, commonly known as rabbit fever, tick fever, rat bite poisoning, deer-fly fever, is an acute infectious cutaneo-glandular disease caused by a specific organism the Bacillus tularensis, and characterized in the main by an initial sore, a pustule or ulcer, at the site of the infection followed rapidly by involvement and inflammatory swelling of the regional lymph glands with severe and lasting constitutional symptoms. The Bacillus tularensis affects primarily certain animal species, chiefly rodents, and it is transmitted to humans either directly by handling them dead or alive, or through the agency of certain insects, as ticks, flies, or fleas.

CLINICAL CONSIDERATIONS

Tularemia is a minor or a related form of bubonic plague with the following distinguishing characteristics: It is not as fulminating a disease as the one caused by the Bacillus plague, or pestis, as the disease very seldom spreads beyond the subcutaneous, regional lymph nodes; it is of by far longer duration and almost tends to assume chronicity; and while it is also a septicemic disease and some types of it are purely septicemic with very few local manifestations, yet even in these types it is by far milder than bubonic plague. These purely septicemic types can be diagnosed only by laboratory methods, as the agglutination test, and not by clinical means. Lastly, in most cases of tularemia, the initial lesion is an outstanding feature of the disease.

In a typical case of tularemia, a few days after the appearance of the initial lesion on an extremity, painful, red strips of cutaneous lymphangitis appear, "resembling a streak of lightning", reaching from the initial lesion to the groups of lymph nodes, either in the axilla, inguinal or subclavicular regions, as the case may be. The lymph nodes swell to various sizes from a pea to a walnut, become very hot and painful and in course of time, about two to four weeks, some of them undergo suppuration and abscess formations, thining out under the overlying skin, and have a furuncle-like appearance. At this stage tularemia is truly a glandulo-cutaneous disease instead of in the beginning a cutaneo-glandular disease. The abscesses are opened or rupture spontaneously and the healing of the lymph nodes would terminate the disease completely as it actually occurs in a number of cases, if not for the greater number of cases where the nodes remain indurated, stubbornly inflamed and painful, and the process of undergoing resolution and absorption is really a matter of many months. For elaboration of pathology and epidemiology the reader is referred to standard textbooks on this subject.

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OCCURRENCE

It is not necessary to go into the geographical distribution of tularemia, as it is an ubiquitous disease and occurs in every clime, every country in the world and in certain places at certain times assumes epidemic proportions, though in many places and many times it is not frequently diagnosed and often not even suspected as such. I wish to emphasize that there are three classes of inflammations of subcutaneous lymphatic nodes, which are diagnosed and pass as other diseases, but which I believe, after thorough clinical investigation and laboratory searching, would prove to be in most cases of tularemic nature. These are: (1) cases that pass as glandular fevers; (2) inguinal adenitis (buboes) where and when the bubo remains indurated or only partially suppurating for a long time without undergoing resolution and with marked constitutional symptoms. In this class should be included also the tropical bubo of a certain type and (3) the type of furunculosis that arises in the subcutaneous lymph nodes with or without subsequent suppuration. The fact that so many patients have no typical initial lesions does not exclude tularemic origin, as the mere handling contact with infected animals, especially contact where the mucous membranes are involved, as is well exemplified by tularemic conjunctivitis, suffices to cause localized, or even in rare cases generalized tularemic infection.

TREATMENT

In order not to be dogmatic we must acknowledge the value of a drug, which has been used for generations, long before radiation therapies and vitamins were known, for all forms of inflammations of the lymphatic system, from tuberculous adenitis and any inflammatory enlargement of the deep or superficial lymph nodes, to status lymphaticus and enlarged thymus. We must state that in most cases the results justified its use. This drug is syrup ferrous iodide. The ferrous iodide molecule apparently has an affinity for lymphatic tissue and once fixed in this tissue it will mature and drive out any inflammation either by suppuration or resolution. With this thought in mind and realizing that tularemia is essentially a lymphatic disease, I began five years ago, in 1932, to use syrup ferrous iodide in tularemia. The prompt and excellent results obtained then in the first two typical cases of tularemia sufficed to convince me to use this drug ever since for quite a number of typical and suspected cases with very good results. I feel that I am justified in stating that ferrous iodide is a specific in tularemia.

CASE REPORTS

Case 1. Eunice A., white, 14 years old, a school girl, was brought from Slidell to New Orleans on September 18, 1932, with a history of chills and fever ranging from 103° in the morning to 106° at night. The patient showed general prostration, frequent delirium, enlarged glands, lasting already over six weeks. On physical examination she appeared normal in every respect except for a chain of hard swollen, extremely painful notes, in the back, along the left border of the spine and a few big ones in the left subclavicular space; four of the nodes were each larger than a walnut, some of them were nodulated, others of a uniform, smooth enlargement. No open sore could be found anywhere and the family could not recollect if she ever had any. Knowing that Slidell people consume a great deal of rabbit flesh. I asked the parents whether the child had handled any rabbits. They admitted that she raised rabbits as pets and also might have touched a dead rabbit while it was being dressed for food. No one else in the family, however, had been similarly affected.

The patient had had no other treatment previously as she was all the time taken care of by a chiropractor who had consulted at last another chiropractor, "who nodded his head in dismay." Treatment was at once instituted as hereafter described, and in two days the temperature began to drop gradually; in two of the largest nodes, softening and fluctuation set in and after a few days, when pointing appeared, these were punctured and the pus was gently evacuated. At the same time, most of the other nodes began to undergo resolution and diminish in size in a spectacular way and in four weeks these disappeared completely without leaving a trace. The patient recovered and has been well to this day.

Case 2. Agnes F., colored female, 32 years old, farm worker in East Baton Rouge Parish, came to the office on November 15, 1932, complaining of high fever and of big, swollen and painful "lumps" all over the chest. On immediate examination, her temperature was found to be 103°; small and large nodes were scattered in both subclavicular spaces, axillae and the right side of the neck; one large node was over the right suprascapular region. The patient said she had been sick for over two months and had had quite a few medical treatments attempted without easing her pain and general symptoms. She gave no history of an initial lesion, but admitted on questioning that she frequently dressed dead rabbits for food. The same treatment given in Case 1 was instituted at once, except that the patient refused to stay in bed. The same identical recovery resulted. Following this patient a number of colored people from the same parish were sent to be treated for tularemia.

OUTLINE OF TREATMENT

As soon as the initial lesion is diagnosed or even suspected, apply an absorbent cotton compress constantly saturated and kept wet with 1-1000 bichloride of mercury solution. If the lesion heals there and then, do not do anything else, but watch the patient for possible later developments. If and when a lymphangitis appears and the regional glands begin to swell, discontinue at once the local mercury application, and use a local well diluted tincture iodine application or still better a colloidal iodine ointment, well known under the trade name of iodex ointment, for the reason that a local mercury with an internal iodide never go together, as it makes a harmful combination. On the swollen lymph nodes the best application, not to encourage suppuration, is a compress of lead-water and opium, made after the following formula:

℞ Tr.Opii. 1 oz.
Liquor Plumbi Subacetatis q.s. 3 oz.
M.Sig. 1 dram to glass, 8 oz. of water and apply every four hours. Alternate with compresses of weak solution of soda or lime hypochlorite.

Now start the internal medication, which is as follows:

℞ Syr.Ferri Iodidi (U.S.P.) 2 oz.
Sig.25 drops in ½ glass of water given after meals.

Give to children according to age, although they tolerate large doses.

Caution: The local lesion, the swollen nodes, if not suppurating and pointing, should not be incised, as the infection may spread and result in septicemia.

CONCLUSIONS

1. Tularemia is a cutaneo-glandular and later a glandulo-cutaneous disease.
2. It occurs more than is usually suspected and it is often confused with other diseases.
3. It has many features in common with bubonic plague.
4. In its treatment, the main reliance is on syrup ferrous iodide taken internally. In my opinion, this has proved to be a specific for tularemia.

DISCUSSION

Dr. G. H. Upton (New Orleans): I have seen only one case of tularemia. This patient presented only manifestations in the right eye. This patient had an uneventful recovery. Lymph nodes were found on the lower palpebral conjunctiva; these nodules presented themselves about thirty-six hours after cleaning rabbits and patient rubbed his eyes with his blood stained hand. The lymph nodes went on to resolution. No laboratory tests were made because no abscesses were formed. If an abscess formed and said abscess ruptured then laboratory smear would present B. tularensis; if not a culture would show a growth of B. tularensis.

The doctor contributes a remedy for our armamentarium of therapeutics in the treatment of tularemia.

Mercury in some form is one of the most used drugs in eye therapy, whether it is bichloride, ammoniate, yellow oxide or calomel as a dusting powder. Quite a bit of emphasis should be stressed upon the use of mercury locally when an iodide is given internally, on account of forming an insoluble red iodide of mercury which is very destructive to all mucous membranes, if continued fatal results occur. We should always be sure to get a careful history to enable us to eliminate this possibility.

Dr. Leo N. Elson (In conclusion): I have nothing to add except that I might say that just a few months ago I had two colored patients with tularemia. They both denied history of venereal condition and upon examination I could not find trace of such a condition. One patient, after questioning, told me that he had a lot of domestic pets and I learned there were fleas in his house. I have been treating these patients with the local and constitutional treatment such as I mentioned. Both cases were of the inguinal bubonic type, of two months' duration. All through the sickness they hardly ever stopped working and after recovery were grateful for having avoided the ordeal of walking on crutches, as is the case, they tell me, with many others who are afflicted in a similar manner and in whom surgical intervention was resorted to.

Dr. Upton mentioned tularemic conjunctivitis. I have had no experience with this. If I had seen cases of this type and had suspected tularemia, I would have had laboratory examinations made. Cases of this kind I would refer to the oculist for local treatment with a suggestion that constitutional treatment be applied as outlined in my essay.

A REVIEW OF ROENTGEN PELVIMETRY WITH SPECIAL REFERENCE TO PELVICEPHALOGRAMS*

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Roentgen pelvimetry as a diagnostic procedure in obstetrics is almost as old as the very existence of x-ray. In 1897, scarcely two years after Roentgen discovered the x-ray, Budlin published an article in which he brought out the fact that it was more important to know the shape and circumference of the superior strait than that of the anteroposterior diameter. This he concluded from the findings of a roentgenogram of a deformed pelvis. To us this was interesting since in the past five years a complete reversal to this very particular fact has occurred following Caldwell and Moloy's excellent description and classification of pelves. Thus we are now beginning to realize something which was really propounded to 1897.

In the same year Varnier made the statement that by x-ray pelvimetry it was possible to diagnose certain conditions which it was impossible to do so by other means.

Albert, in 1899, in his "Ueber die Verwertung der Roentgenstrahlen in der Geburtshilfe" (the use of x-ray in gynecology) advocated the use of the semi-recumbent position in order to get the superior strait in a parallel position with the film. He also used the upper margin of the fifth lumbar vertebra and the superior part of the symphysis as his locations for placing the superior strait in this parallel position. His calculations were made by a mathematical procedure in which known quantities, distance of superior strait from film, and focal distance of tube were used. Fabre and Fourchet in this same year described what is now commonly known as the Fabre method. Thus roentgen pelvimetry and its basic principles were established nearly half a century ago and is the foundation for the present incentive.

Hirsch discussing Thoms' paper in 1922 divided the various methods of roentgen pelvimetry into five types: comparative, teleoroentgenographic, frame, triangulation, and stereoroentgenographic methods. It is a complete classification and covers the field from the time of its inception.

Moore has classified the procedure according to the recognized methods in vogue today. They are as follows: (1) methods based on mathematical calculations alone; (2) methods based on mathematical calculations associated with triangulation and stereoroentgenographic procedures; (3) scale methods.

There are at present two schools of roentgen pelvimetry, one striving to attain extreme accuracy by using very technical methods beyond the use of the average physician, but well adapted to technical laboratories or in teaching hospitals; the other group striving for practical methods easily performed and requiring the least amount of technical procedure yet maintaining enough accuracy to be of practical value. However good each group's reasons, the fact still remains that to be of any value roentgen pelvimetry will have to be of such a nature as to allow of its use by the great majority of obstetricians before it may play its part in a reduction of maternal mortality.

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Thoms, Moore and others believe every primipara should have the benefit of roentgen pelvimetry regardless of external measurements. If one will only study the works of Caldwell, Moloy, D'Esopo, Pieri, Thoms, Moore, and Ball there would be no question of this fact. Some even advocate the raying of all patients between the thirty-fourth to thirty-sixth week of pregnancy. This we believe to be an excellent suggestion if and when means to do this are possible. By following this it is possible to determine and diagnose the position of the fetus, the probability of multiple pregnancy, the possibility of malformed fetus, and last the size and shape of the true pelvis with evidence of any disproportion between fetus and pelvis.

If one follows the best antenatal care with pelvimetry at the thirty-fourth to thirty-sixth week a definite course of attack can be planned should some abnormality exist. A few years of such a plan should show a definite improvement in the final results as to fetal and maternal mortality.

However, it should be understood that roentgen pelvimetry should always be used not solely alone but in conjunction with the clinical findings and with a careful consideration of each patient, as only in this way can good results be obtained.

TYPES OF PELVIMETRY

At present there are many different types of pelvimetry which shows that the best and simplest method has yet to be worked out. In 1931 Hooton of England described a purely mathematical procedure where ordinary anteroposterior and lateral roentgenograms are made. All measurements are then computed from a mathematical formula. It is one of the simplest methods yet devised. Rowden, also of England, about the same time worked out a scale type of pelvimetry which is simple but demands a little more technical knowledge of radiology. Walton, of Baltimore in 1931, worked out a method based on the use of a distorted graph scale but it likewise is somewhat technical. Thoms has probably been one of the foremost advocates of pelvimetry of the modern day. His contributions have been many and he has always adhered to procedures which have been practical. His lead scale method has been the most popular method in this country but it is still a technical procedure for the average obstetrician. Moore, in 1933, devised a procedure similar to Thoms' in that a sheet lead scale is superimposed in the plane of the pelvic strait but differs in the type of plate used and the method of making the measurements.

In all of the above stated procedures except one the use of a scale and the technical procedures involved make them inaccessible to the majority of obstetricians.

We have been interested in the Ball pelvicephalogram as a form of roentgen pelvimetry. In 1935 Ball first published his method and in 1936 reported a series of cases with a few changes in the technic. This type of pelvimetry and fetal cephalometry affords a comparison between the volume of the fetal cranium and the volume capacity of two pelvic diameters, that is, the true conjugate and the bi-ischial spine.

In the human female pelvis, except in the funnel type, the true conjugate or the bi-ischial spine is always the smallest diameter. Thus if these two diameters are measured, it is easy to calculate the volume of a sphere which could be placed in a space that size. When the fetal cranium and pelvic diameters have been measured in units of volume and volume capacity, respectively, a definite fetal cranium-diameter ratio is involved.

From this it is simpler to think of the mechanism of labor as a passenger of a certain volume (fetal cranium) passing through a passage (pelvis) of a certain volume capacity. By Ball's method this can be determined two to four weeks before term with the use of a graph to estimate any increase in fetal volume as term approaches.

Since teleoroentgenography is not available to the average roentgenologist or obstetrician and since radiography of the pregnant pelvis at much reduced target-film distances results in a considerable degree of distortion, some method by which films made in an uncomplicated fashion can be corrected for distortion is highly desirable. We believe that the pelvicephalometer devised by Ball adequately fulfills the requirements and that pelvicephalometry done by his method is not only the most practicable but also the most accurate of any of the methods described up to the present time.

In the case of films made at a shorter target-film distance than six feet a varying amount of distortion results in the radiographic image so produced. Three variable factors enter into the production of this distortion: (1) target-film distance; (2) the target-object distance; and (3) the object-film distance. If one of these three variables is made constant (target-film distance) the other two factors can be corrected by means of a correction chart plotted with rectangular or polar coordinates.

The Ball pelvicephalometer is essentially a circular chart or calculator engraved upon a metal disk by means of which a linear or spheroid radiographic image can be measured and its magnification corrected. Space does not permit of a detailed description but one may familiarize himself by consulting Ball's last thesis.

After using the pelvicephalometer we have available the volume of the fetal head in milliliters (V. C. F. H.), the volume capacity of the smallest pelvic diameter in milliliters (V. C. S. P. D.), the volume capacity of the largest pelvic diameter in milliliters (V. C. L. P. D.), the mean perimeter of the fetal head in centimeters (M. C. F. H.), and the true conjugate and bi-ischial spine diameters in centimeters. By using the formula, true conjugate plus bi-ischial spine, we obtain the type of pelvis which is either classified as 1+, 1 or 1-.

From a consideration of these factors, the pelvic architecture and the clinical findings, we are able to arrive at a fairly accurate opinion as to the outcome of each case, and whether or not delivery can be safely accomplished through the natural channel.

We have now used the pelvicephalometer in sixteen different instances on fourteen cases. Usually these have been performed at between the thirty-sixth to thirty-eighth week of pregnancy. These cases have consisted principally of primipara who were clinically listed as "borderline" with some doubt as to the outcome of labor.

In this group the youngest patient was 13 years of age and the oldest 41 years of age. There were three multiparas, two white and one colored, and 13 primiparas, eight white and five colored.

Of these sixteen cases in only one was a misinterpretation of the outcome made. This was in a colored primipara aged 17, in whom we believed a positive arrest at the outlet would occur necessitating forceps, but after 16 hours of labor, the patient delivered a 9½ pound male infant with the aid of low forceps. In rechecking this case, we found that the large posterior pelvis accounted for the error.

It is not possible to present tables of results as space does not permit. Suffice it to say that the infant's weight was depicted with only a 10 per cent error and the size of the fetal skull with an error of 5.8 per cent.

A brief summary of one case is presented in which the value of such pelvicephalometry is demonstrated.

CASE REPORT

White primipara, aged 24, external and internal measurements indicated possible elective section. At the thirty-eighth week, the V. C. F. H. was 462.7 mil, the V. C. L. P. D. 600 mil, the V. C. S. P. D. 465 mil, the M. C. F. H. 30.1 cm., the true conjugate 10.3 cm., the bi-ischial spine diameter 9.5 cm., probable weight of the fetus 7 lbs., 1+ type pelvis, and probable sex female. After consideration of pelvic architecture and the above findings a normal delivery with outlet forceps was predicted. Two weeks later the patient had a three hour labor with outlet forceps. The fetus weighed 7.8 pounds and was of the female sex with a M. C. F. H. of 31.75 cm.

SUMMARY

We do not wish to leave the impression that this is a technic that one can rely on alone, but urge that one's clinical findings should first be given precedence and the pelvicephalometer used as a further aid in depicting the eventual outcome of labor.

By presenting a series of cases, though small, we hope to arouse further investigation of this method which we believe has great potentialities. Since this was written Dr. J. Irving and Dr. W. Guerriero have employed this technic in over 100 cases at Charity Hospital, New Orleans, with equally good results. These will be presented later.

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THE DIAGNOSIS OF RABIES*

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Over the past ten years, there has been a marked increase in the incidence of rabies in both animals and man in the United States. This increase has been especially marked in the southern states. In Louisiana, for instance, there has been a gradual rise in the number of animals showing rabies during the past decade, until, in the year 1937, there occurred a rather extensive epidemic of rabies in dogs in the Parish of Orleans and its immediate vicinity.

When a disease is on the increase, it is obviously important that the medical profession should be made aware of certain facts concerning it and more especially its diagnostic criteria.

DIAGNOSIS IN ANIMALS

The greatest incidence of rabies occurs naturally in the disease's most receptive host,—the dog. However, other animals such as cats, cows, horses, mules, pigs or rats may be infected by rabies. In animals, the diagnosis is generally rather simple. Given a history of contact, especially active combat with another animal, followed in the course of 14 to 21 days by untoward symptoms is always to be considered as presumptive evidence of rabic infection. These untoward symptoms may generally appear as of two different types, depending upon the reaction of the individual's nervous system to the obnoxious agent. The symptoms which are usually considered most common of rabies in animals, but which actually occur less frequently, are the so-called active ones in which the animal goes wild and terrorizes an entire neighborhood. The usual type of symptoms presented by rabies in animals is important to remember. These consist of indifference, drowsiness, general apathy, and the animal appears quite innocuous. For that reason animals so afflicted are liable to be treated in the home. Their saliva, it should be remembered, is as infectious as that of the animal exhibiting the wildest type of symptoms. In so far as clinical symptomatology is concerned, I do not believe that it is possible in every case to make a positive diagnosis. I know that our veterinarian friends do not subscribe to this idea, but I speak from a varied and extensive experience. The only manner of positively arriving at a diagnosis in an animal is by histologic examination of its brain. If the animal has rabies, the so-called Negri bodies are present in certain of its brain cells. I need not here enter into any elaborate explanation of that which Negri bodies are; suffice it for us to remember that there is still much argument as to whether these bodies are actually preformed structures or represent simply degenerative changes occurring as a result of virus activity. Naturally it is important that the histologic examination and the preparation of the material for examination be done by persons thoroughly competent and experienced. Special staining methods must be used in order properly to demonstrate the Negri bodies. It must be remembered that an animal's saliva may be infectious, and probably is in numerous cases, before the appearance of Negri bodies in its brain; that is the reason why one should be ever cautious in dealing with animals that are suspected of having rabies. Destroying such animals before well developed symptoms always is dangerous because it precludes the possibility of allowing the appearance of the diagnostic changes in the brain cells.

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Another important method of diagnosis of rabies in animals is by means of inoculating emulsions of their brain into other susceptible animals and to note the development of the disease by the typical histologic changes in these. That method, of course, is more time consuming since the incubation even after intracerebral injection of such suspected material may be long drawn out.

DIAGNOSIS IN MAN

Human rabies, of course, is fatal in every instance. Its exact incidence is difficult to determine. In the Charity Hospital we have had five deaths from rabies over the last five years. The diagnosis of rabies in humans has been made more frequently than this over the past five years, but it was only in five of the cases so diagnosed that the substantiating and biologic evidence was adduced.

The clinical diagnosis of rabies in man depends especially upon eliciting a history of exposure. The incubation period varies and usually bears relationship to the site of injury, wounds of the face and head showing shorter incubation periods than those of the extremities. It is generally stated that the incubation period varies from 21 days to six months and there is recorded in the literature cases with positive incubation periods of as long as two years. Seven weeks has been the longest period of incubation of human rabies that I have observed. At the onset of rabies in man there is generally slight temperature, and nervous phenomena, these latter developing rapidly into a state of apprehension; such apprehension is not psychologic but depends upon actual changes occurring in the central nervous system. At this stage the patients present a peculiar, fearful, staring appearance. Disorientation with consciousness generally follows, this being characterized by extreme talkativeness. Near the end there is inability to swallow due to the paralysis of the pharyngeal muscles. Convulsions, generally terminal, are not common. When the diagnosis is once established, the temperature ranges from 101 to 103 degrees F. Rigidity of the neck is seldom, if ever, present, and the spinal fluid is generally not under increased pressure and is usually negative in so far as increased cell count or globulin is concerned. From the onset of prodromal stage, until death, there is rarely more than 72 hours.

Within the past year 1,305 individuals in and around the Parish of Orleans were given prophylactic treatment for rabies following injuries by proved rabid dogs. During the course of treatment, as can be expected, we have noted the occurrence of other diseases; for instance, we have seen pneumonic processes with cerebral irritation, malaria, and poliomyelitis, developing during the course of antirabic vaccination. None of these naturally could be attributed to the therapeutic agent used. As in the animal, the final definite diagnosis of rabies in the human can be made only by study of histologic sections of the brain, or by biologic test through animals. An experienced pathologist need never have difficulty in differentiating rabies from poliomyelitis, postvaccinal encephalitis, and meningitis of various types.

CONCLUSION

Let me sign a note of warning regarding indiscriminate use of prophylactic antirabic vaccination. It is well established that a certain number of patients who have been given killed or attenuated rabic virus in prophylactic inoculations develop local paralyses or fatal encephalitis. The exact cause of this is not determined. Some ascribe such postvaccinal accidents to foreign protein; others to the virus itself. Be that as it may, it is an established fact that in no such case can Negri bodies be found, and no incident has ever been recorded where the inoculation of brain emulsions from patients so afflicted into animals susceptible to rabies caused development of the disease. Rabies is an important public health problem. It is one that can not be taken lightly by health authorities, and it behooves us, as physicians, to use every means within our power to educate the layman regarding the danger of the stray, free dog. There can be no doubt but that the most efficacious method of combating rabies is by ridding communities of its stray animals.

DISCUSSION

Dr. Allan Eustis (New Orleans): I merely wish to ask whether or not prophylactic vaccine given to dogs is efficacious? I am constantly being asked this by my patients, and I have dogs of my own which have been given the vaccine.

Dr. C. S. Holbrook (New Orleans): I wanted to ask Doctor Connell whether dogs are sometimes carriers of rabies which did not actually develop the disease? It has been said that this occasionally occurs. In withholding treatment, if the dog does not develop rabies in ten days, is one safe in considering the individual does not require antirabic treatment in the course of ten days or so? I have seen this contradicted recently in the literature.

I think we are extremely lax in our public health measures, and the fact that we are having so much rabies in our community is a blot on our scientific appreciation of what one can do. In the British Isles, England, Scotland, and Wales, rabies has been practically eliminated by the proper control of dogs. There is a terrible amount of rabies in this community. Something ought to be done about it!

Dr. S. J. Couvillon (Moreauville): When a person is bitten by a dog, he immediately thinks the animal has rabies and he recommends that the dog be killed right away, if there is a way to catch it. Of course, the head is sent down here to the city for a laboratory test and diagnosis. It is unnecessary to mention that invariably the report proves positive.

I want to ask Doctor Connell if he would not regard it more practical and economic, in any event the dog is presumed to have rabies, that this dog be tied, locked up for the necessary number of days, in order to determine whether or not hydrophobia is present?

Death of the animal in about a week is a conclusive and positive proof that rabies is present when actions have to be taken. In the alternative, there would be no need of sending the specimen to a laboratory, nor would it be necessary for the victim to take the treatment.

Dr. Charles J. Bloom (New Orleans): I happened to have had one of the children who succumbed to rabies, about the time of Mardi Gras. I am rather interested in bringing this to your attention for several reasons. First of all, in our particular case the animal was not a dog but a cat. This little girl, on January 4, while on her way home from school, childlike, stooped over to pet a cat. The cat bit this little girl on her finger. Attempt was made at that time to secure the cat for observation, but, unfortunately, they were not able to. That was on January 4. The child was sent for treatment on the afternoon of the fourth, and active treatment was begun on the fifth and was concluded on January 19.

Calculating that in the United States there are 40,000,000 cats, in New Orleans there should be about 100,000 to 110,000 cats. Of this number 5 per cent are rabid; that would make probably between 5000 and 6000 cats in New Orleans that are rabid.

An interesting thing in this case is that the child showed no evidence of rabies until February 24, more than a month after the last administration of the prophylactic treatment. It might be well also to know that the onset of the child's illness simulated mild rheumatic fever. She was stricken on Saturday afternoon, had 99° temperature, accelerated pulse, and slight pain in the right ankle. Sunday morning, her temperature had not risen. The pain in the right ankle was now supplemented by pain in the left shoulder and left ankle; pulse still rather fast. And then in the afternoon, she began to experience some difficulty in swallowing. That afternoon late, she became very much excited and it was necessary to give a hypnotic. On Monday, two days after she was stricken, she had marked difficulty in swallowing, and after Tuesday, she lapsed into a subconscious state.

I hope the various Parish Boards of Health will, in conjunction with the State Board of Health, reach some method by which these rabid dogs and cats can be caught and killed, and also, that a law will be put into effect whereby privately owned animals must be immunized at stated intervals.

Dr. G. H. Hauser (New Orleans): I want to congratulate Doctor Connell on this excellent paper and upon the timeliness of bringing it before the association. Many points should be emphasized in rabies, but first of all, that rabies is unquestionably increasing in the city and the state. About ten years ago, I brought this matter before the association and the paper which I read at that time called forth considerable discussion as to the method of treatment, as to whether live virus or dead virus should be used. I think since then it has been shown that practically all methods of treatment are by some active form of virus; there is no dead virus on the market. At that time, it was thought if the method used was dead virus, or the Semple method, paralysis would occur. However, it has been found that this condition occurs following treatment by other methods. This type of paralysis can be demonstrated very accurately and differentiated from rabies in these cases. In the paralysis, an ascending type of paralysis is present which results in death when the medullary centers are reached. In rabies, the symptoms are those described by Doctor Connell. One important thing to remember is that in human rabies, there is the symptom of hydrophobia. The patients have difficulty in drinking, which can be demonstrated by bringing them a glass of water and they go into convulsions of the muscles of the throat. The lower animals do not have this. The animal dying from rabies, either the active form or dumb rabies, will drink water almost at the time of death.

Do not depend upon the veterinarian's examination. It may or may not be correct. Always have it confirmed by microscopic examination, even if it is necessary to go back and dig up the animal.

Another point Doctor Connell brought out, as did one of the other speakers, is not to kill the dog too soon. The Negri bodies become more sharply defined as the disease progresses. It may be difficult to make a diagnosis if the dog is killed too early. The dog should always be observed for several days. The only thing to remember is this: If the bite is about the face, the type with which you are dealing is of short incubation. I would recommend that treatment be started at once, and, if the diagnosis proves negative, treatment can be discontinued. Whereas, if the diagnosis is positive, you have gained a few days. Usually the diagnosis, especially if made by smear preparations, can be demonstrated within a few hours.

As to the public health problem, this seems to be a matter that is strictly up to the American public. Doctor Holbrook mentioned a fact which is well known, that is the elimination of rabies in England and its prevention in Australia. If you will go back to the records, you will find we have laws to prevent the spread of rabies, but the question is to get enforcement. Muzzling dogs was attempted here and proved a failure. Since the time of Dr. Dowling many years ago, strenuous efforts have been made to decrease the incidence of rabies, but the public does not cooperate as it should. Recently, in the City of New Orleans an attempt was made to reduce the number by vaccinations and destruction of stray dogs and it is hoped this will give results.

Dr. John H. Connell (In conclusion): As to the first question, as to whether or not the prophylactic vaccination of dogs is efficacious, which was asked by Dr. Eustis, to the best knowledge of the authorities who have experimented on it, it is believed that apparently immunity is secured in 50 per cent of the animals so vaccinated. This is a variable statement and not definite. However, I have seen many animals in the course of the last year which had prophylactic vaccination, and which succumbed to rabies. Nevertheless, it is a worthwhile procedure. It is the type of vaccination that these animals get. The human receives 14-28 injections to get immunity. I do not understand how fair-minded authorities can think that one injection will give immunity to the dog. Consequently, among friends of mine, I have inoculated their animals with the same type of virus used in humans, inoculating four to five times in the course of ten days, and, to my knowledge, I know of no cases of rabies occurring in such animals thus inoculated.

In answer to Doctor Holbrook, as to dogs carrying rabies who actually have not rabies, it has been the experience in this country that rabies once contracted is fatal. I believe this can be stated as a fact inasmuch as the dog is the animal most susceptible to rabies. If the animal has rabies, it will be dead in two to three weeks. There are, however, many accounts in the literature of carriers in rabies, accounts coming from Brazil, in which bats have been found carriers of rabies. Such bats can carry the virus a year or longer periods of time without succumbing to the disease. In a report I read recently on diseases simulating rabies, it is said this is a new virus disease in Brazil and this disease affects cattle and very rarely humans, and actually is different from rabies. Therefore, I cannot say rabies can be carried without proving fatal.

Doctor Hauser answered the question about not killing the animal immediately. It is very important that the histologic and pathologic disease in the brain develops along with the development of the symptoms, and that the animal be locked up until the development of the symptoms, because it is very difficult to make a diagnosis in the early stage of the disease.

As to what is considered exposure to the animal and what cases should be treated when exposed, the only answer to this is one of experience. I have answered that question for the civilian population at the Pasteur Clinic, during which time we have had many thousands, 30,000 to 40,000, exposed to the disease. An individual exposed to the disease, to my mind, is one with any abrasion of the skin coming in direct contact with the animal's mouth; these cases are treated at the clinic. Other individuals who merely pet the dogs, are not considered as exposed, and are not treated unless the skin is broken.

In answer to Doctor Bloom's question about his case, supposedly rabies, I do not like to take issue with Doctor Bloom on that, but I believe the case is questionable. It is known that cases occur in which there has been prophylactic vaccination; two cases I know had a full course of rabies vaccination. I do not believe a definite criterion of histologic and bacteriologic examinations of his case was carried through. I attempted in that case to get material, because the case was treated in my department, and I was not able to get material from the autopsy. In a similar case before I found the child died of encephalitis and not rabies.

DEUTEROPROTEOSE IN THE TREATMENT OF PNEUMONIAS[*]

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Encouraging results have already been reported from the use of deuteroproteose in the treatment of the pneumonias.[1,2,3] Great reduction in death rates, with the cases running a milder and a shorter course and with fewer complications and sequelae have been found in a series of 1807 cases of pneumonias, one-half of which were treated with deuteroproteose while the other half received no deuteroproteose, being used as controls.

It is the purpose of the present paper to report further progress of this work, and also to attempt to elucidate the nature of the actions of deuteroproteose in such cases. The mortality tables and graph indicate results both of controls and deuteroproteose-treated cases of both lobar and bronchial pneumonias, in different age groups, and also summarize mortality rates for the whole series.

MORTALITY TABLES IN PNEUMONIAS (1807 CASES)
Cases Treated with Deuteroproteose Compared with Control Cases Which Received No Deuteroproteose
LOBAR PNEUMONIA (594 CASES)

	Cases Treated with Deuteroproteose			Control Cases Which Received No Deuteroproteose		
Age in Years	Total Cases	Fatal Cases	Per Cent Mortality	Total Cases	Fatal Cases	Per Cent Mortality
1	13	1	7	50	27	55.4
2	15	1	6	42	11	26
3	7	0	0	13	3	23
4	8	0	0	11	4	36
5	6	0	0	8	1	12.5
6	14	0	0	8	1	12.5
7	11	1	9	9	0	0
8	11	0	0	7	0	0
9	10	0	0	2	1	50
10 to 19	52	1	1.9	18	8	44
20 to 29	50	7	14	33	7	21
30 to 39	54	8	15	45	15	33
40 to 49	23	4	17	15	9	60
50 to 59	12	2	16	14	10	70
60 to 69	5	1	20	22	19	86
70 to 79	3	0	0	2	1	50
80 to 89				1	1	100
Totals	294	26	8	300	118	39

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[*] Read before the Orleans Parish Medical Society April 11, 1938.

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BRONCHIAL PNEUMONIA (1213 CASES)

Age in Years	Cases Treated with Deuteroproteose			Control Cases Which Received No Deuteroproteose		
	Total Cases	Fatal Cases	Per Cent Mortality	Total Cases	Fatal Cases	Per Cent Mortality
1	140	24	17	159	82	51
2	158	14	8	118	31	26
3	34	3	8	26	1	4
4	39	1	2.5	14	1	7
5	11	0	0	29	2	7
6	19	0	0	14	5	36
7	16	1	6	6	0	0
8	15	1	7	11	1	9
9	10	0	0	5	1	20
10 to 19	28	0	0	37	6	16
20 to 29	41	2	5	39	10	25
30 to 39	40	4	10	33	10	30
40 to 49	16	1	6	31	12	39
50 to 59	19	1	5	26	16	61
60 to 69	18	4	32	34	21	62
70 to 79	4	1	25	17	11	65
80 to 89	2	0	0	2	1	50
90 to 100	1	0	0	1	1	100
Totals	611	57	9	602	212	35

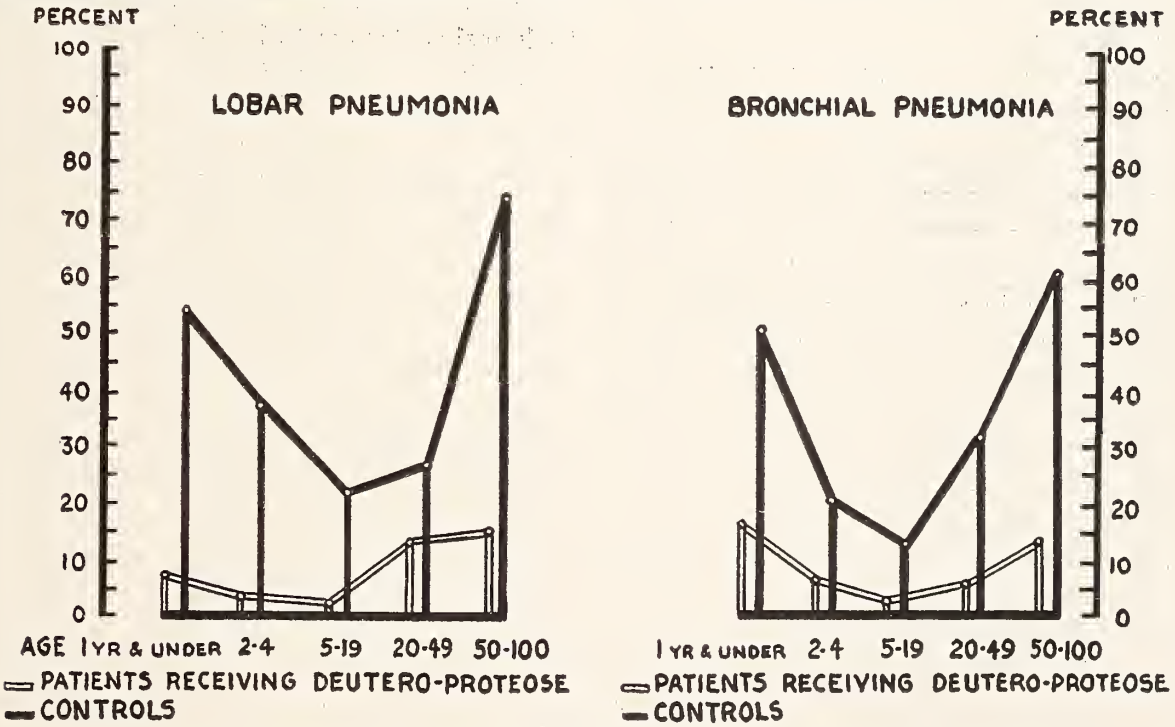

CHART 1

Mortality tables showing death rates for both lobar and bronchial pneumonia, and for different age groups, both for the deuteroproteose-treated cases and also for the controls which received no deuteroproteose. (Cut through courtesy of Southern Medical Journal).

In this series of pneumonias the controls were obtained by taking the same number of similar cases, at the same time, from the same or similar wards, from the same strata of society, the same proportion of negroes and whites, the same proportion from each age group, the same proportion of lobar and bronchopneumonias. In short, in all essential matters, the controls were similar to the patients treated with deuteroproteose.

SELECTION OF CASES

The cases were not selected with a view of getting any particular type or form of pneumonia, but all cases which were admitted and were available were accepted and included. The purpose was to get a cross section of all cases just as they entered the hospital, including all ages, all colors, both sexes, and all forms, and all conditions, and all stages of pneumonia. All patients were treated similarly, the only essential difference being that one-half of the patients received the deuteroproteose, while the other half received none.

All patients were treated according to the best routine of the hospital, including skilled medical care, nursing, hygiene, oxygen, and such other measures as were deemed helpful.

To those who hold the view that alternate cases should be employed as controls, it may be pointed out that at least one very valuable and important paper on pneumonia had no controls. The paper referred to is that by Cole and Dochez[4] in which they confirmed the results previously published by Neufeld and Handel[5] showing the curative action of type specific serum. And furthermore Cole and Dochez had only seventeen cases in their series, three of which they discarded, leaving only fourteen cases in the series. But they said their results were unmistakable, showing beneficial curative action on ten cases of type I pneumonia which recovered, but having no effect on one patient with type I pneumonia who died.

Cole and Dochez were correct, although at first Locke,[6] who repeated their clinical tests, found the serum had no effect on the death rate in pneumonia. Later work has fully confirmed the work of Neufeld and Handel, and of Cole and Dochez, but has showed that successful treatment with specific serum depends on early application of the serum (in the first three days of the disease).

Alternate cases is a sound plan for controls in a series of experiments where groups of white mice, all of uniform weight and age, of the same stock, and on the same diet, are inoculated with accurately measured doses of the same culture, of the same strain of virulent pneumococcus. But in a series of pneumonia patients of different age groups, of different races, of different forms, and different stages of pneumonia, the plan of alternate cases for controls is not applicable. The plan of including all ages, all forms, and all stages of pneumonia in our series is significant, because the results from such a series indicate that the deuteroproteose treatment is applicable to all forms of pneumonia occurring in the whole community. Therefore the deuteroproteose treatment should be effective in reducing the general total death rate from pneumonias when used in pneumonia control work including the whole community.

THE TREATMENT

The deuteroproteose treatment is very simple and easy of application. Because the deuteroproteose is practically non-toxic, even when used in the largest therapeutic doses, there are no contraindications to its use. And because all forms of pneumonia are treated similarly, there is no need for typing in carrying out the treatment. This simplification makes the deuteroproteose treatment for pneumonias applicable in out-patient services, in camps, in any other remote or underprivileged place, where skilled medical care, nursing, and other helpful facilities and services are not available.

The method of using deuteroproteose in the treatment of pneumonias consists essentially in injecting parenterally appropriate doses of a 10 per cent sterile solution of deuteroproteose. The injection should be started at the earliest possible opportunity, for pneumonia is a rapidly fatal malady, and delay in starting the treatment may mean a fatal result. The injections are usually made intramuscularly. However they may be made intravenously if preferred. and the intradermal route is also available for those who wish to employ it. Somewhat smaller initial doses are used if the intravenous or intradermal routes are to be employed.

The doses for adults for pneumonias of ordinary severity in our series have usually been 2 c.c. of the 10 per cent solution of deuteroproteose given twice daily. But in more severe cases this dose has been increased to 3 c.c., or even 4 c. c., twice a day. In a few patients, 5 c.c. and 6 c.c. were given twice daily. In none of these was there any evidence of toxicity or severe reaction from the deuteroproteose.

In rare instances a sharp rise in temperature with quick return to the former level, or "spiking" of the fever curve, has been observed to follow the first injection of deuteroproteose. In other instances a slight rise in temperature, followed by a fall has been observed. Generally there is not a very great change in temperature curve, but usually a downward trend sets in which carries the temperature down to the normal level in two or three days.

The plan is to continue to inject the deuteroproteose twice daily until the temperature does come down and shows a tendency to remain at or near the normal level. After this, the same dose is given once a day until the patient is discharged.

The usual dose used for ordinary cases of pneumonia in babies and young children has been 0.02 c. c. per pound of body weight. In more severe cases with high fever, and other signs of grave illness, larger doses are used: 0.03 c. c., 0.04 c. c., or 0.05 c. c. per pound of body weight, increasing the dosage until the fever is reduced; then continuing the dosage until the patient is convalescent. Thus, a child weighing 100 pounds or over is given adult doses.

ACTION OF THE DRUG

The nature or the mechanism of the action of any curative agent is usually a profound problem. However it is natural to want to go as far as possible into the problem, and to try to explain the mode of action of the drug. Deuteroproteose probably performs its curative action by mobilizing or actuating those biologic body defenses which are normally set into motion whenever the body is invaded by disease germs or their products. Cole and Dochez said:[4] "That spontaneous recovery occurs, and that animals may readily be made resistant to infection by a process of immunization, gives definite proof that the body contains within itself the mechanism necessary for overcoming infection." It is probable that deuteroproteose gives an impulse which aids this mechanism. There are indications pointing to this conclusion: In the first place it has been found that deuteroproteose is accumulated in the fluids of the lung in cases of pneumonia. It is reasonable to suppose that this accumulation of deuteroproteose in the lungs in pneumonia is a part of the natural protecting mechanism of the body against pneumonia. In the second place the deuteroproteose acts more effectively in those age groups in which the pneumonia patients already have the greatest resistance to the disease: the ages from 5 to 20 years of age; and conversely deuteroproteose acts less effectively in the age groups which have the least resistance: the young and the old. In the third place deuteroproteose produces a leukocytosis very similar to that produced by disease germs. This leukocytosis begins promptly after the injection of deuteroproteose, without any negative phase, and continues gradually to rise, reaching its crest in five or six hours, after which it gradually subsides, but not quite to the former level. In this leukocytosis, many new, or young leukocytes appear in the blood stream.[7] There is an increase in polymorphonuclear cells with a shift to the left, but there is no chill, nor elevation of temperature, nor any indication of toxic action.[8]

Our deuteroproteose is of low toxicity[8] producing a leukocytosis and beneficial clinical results without any shock or reaction. So it is evident that its action is very different in this regard from bacterial vaccines or serums, which do produce reactions. This leukocytosis occurs in normal animals, normal persons, and in patients suffering from various diseases. The following reports illustrate the changes in white cell counts following the injection of deuteroproteose:

In a dog weighing 8 kilos, 3 c. c. of the 10 per cent solution of deuteroproteose produced an increase in the total leukocyte count from 12,300 to 19,725 in 5 hours and 20 minutes, a 60 per cent increase.

In a colored female child, 2 years old, with influenzal upper respiratory infection, one injection of 1 c.c. of the 10 per cent deuteroproteose solution was followed by a leukocytosis of from 9,300 to 11,600, or 24.7 per cent increase in white cells. Here there was an increase in polymorphonuclear cells with a shift to the left, followed by a return to normal and with marked rapid clinical improvement of the patient.

In a white woman, aged 35, with lobar pneumonia, a series of daily injections of from 0.5 c.c. to 1 c.c. of the 10 per cent deuteroproteose solution showed the following effects: For the first four days there was an ascending leukocytosis with shift to the left, with decrease in percentage of lymphocytes. On the third day came the crisis, with rapid fall in leukocytes and in temperature, and improvement in the patient's condition. Following this there was a return to normal blood count, in spite of the small daily injections of deuteroproteose, after which the patient was discharged.

In a colored male, aged 39, with lobar pneumonia, injections of 3 c.c. of deuteroproteose solution were made twice daily the first day, and 4 c.c. twice daily for the next three days. These injections were followed by great increase in the number of leukocytes, with strong shift to the left. At first it appeared that the patient was about to have his crisis: His temperature fell, and he showed other signs of improvement, but the pneumonic process rather suddenly spread to the opposite side, and the patient grew worse and expired. Although there was a very marked leukocytosis, it was not of itself sufficient to save this patient.

SUMMARY

1. Deuteroproteose is a safe non-toxic agent which is effective in the treatment of pneumonias.

2. Typing tests are not required for carrying on the deuteroproteose treatment of pneumonias, because all forms of pneumonia are treated similarly.

3. Deuteroproteose produces a leukocytosis which consists essentially in an increase in the polymorphonuclear cells, and a shift to the left.

4. Deuteroproteose probably produces its beneficial effects in pneumonias by mobilizing or stimulating the natural biologic body defenses.

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DISCUSSION

Dr. John Signorelli (New Orleans): I am acquainted with some phases of the work Dr. Brooks has been doing, and I wish merely to report those particular cases with which I am familiar.

Dr. Brooks some time ago asked permission to use this plan of treatment in cases of pneumonia in my service, and as I was rather skeptical, or conservative, I suggested to the doctor that I would permit him to use it in those cases which I did not consider to be more suited for other types of treatment; for instance, where typing was possible and we wished to use vaccine, we reserved the right not to allow him to use those patients. The results of my observations were that it is difficult to draw definite conclusions. Some of the patients received treatment at different stages of the disease and, while a good many seemed to respond rather rapidly to the administration of the drug, I personally feel that it is questionable whether one can definitely attribute the fall of the temperature and the amelioration of symptoms to the particular drug. However, when such a thing happens repeatedly in more than two or three cases, I think one's mind should be open and admit at least the possibility that this type of treatment possesses some value.

I have seen Dr. Brooks administer this treatment to patients who clinically looked, if not hopeless, at least in a bad way, and as I stated before, improvement followed. However, I fail to see where the improvement can be shown to have taken place with any regularity in relation to the administration of the drug. For instance, I did not see all the slides that the doctor showed, but my impression of the records that I saw is that not all the charts ran so; there is no uniformity, in comparing the charts, as to the number of hours or days following the administration of serum where the temperature approached normal and remained normal. I saw one particular chart this evening which showed the crisis to have taken place immediately upon administration of the drug. I think the doctor must have shown other slides too, where following administration of the drug there was not that spectacular fall in the temperature.

Summing up Dr. Brooks' experience, I think the drug should be continued. I want to go on record as being clearly of the opinion that inasmuch as we do not have any specific treatment for all cases of pneumonia, and inasmuch as there is a diversity in the picture, both from the bacteriologic and therapeutic standpoint, when dealing with pneumonia, that this particular type of therapy perhaps may be of help in patients who heretofore have not responded to usual treatment. On the other hand, I am of the opinion that those types of pneumonias which have proved to be responsive to a definite treatment, for instance vaccine treatment, should be treated by the old method until the new treatment has been proved more efficacious.

Dr. S. Chaille Jamison (New Orleans): In the consideration of any remedy that is brought before us, certainly the most important thing is that we know that the remedy will do the patient no harm. Dr. Brooks did a good deal of his work in my service, and I can say positively that his treatment certainly does no harm. We have all known for many years that foreign protein of any kind does at times have a very startling effect on the course of a bacterial disease. I do not think any of us pretend to understand just what the reaction may be. As I said to Dr. Brooks in discussing this matter, after all pneumonia is a pretty tricky disease. We see a case and we are startled to see the high temperature of the patient, and he will have a crisis and be a well man the next day; another man will not look so sick, will run along for ten days or two weeks, and die.

When we can give a disease to animals and have a control it seems to me that we feel we have a remedy which can bring about a cure. With the animal experimentation, it is so easy. I am very skeptical about any remedy the claims for which are based *post hoc, ergo propter hoc.*

I congratulate Dr. Brooks on the sincerity of his purpose and the tenacity with which he pursued it.

Dr. Clyde Brooks (In conclusion): I am very much indebted to those who discussed my paper. I am not seeking to convince any one against his will or against his judgment as to the merits of my method. However, whatever claim I make, I base on the statistical evidence of these 900 cases. When you consider these 1807 cases were taken without any selection, accepting all as they came, the "run of the hospital," and that the death rate was greatly reduced. it begins to look as if there is something in it.

I deeply appreciate the courtesy and cooperation of Dr. Signorelli and Dr. Jamison, and I value the privilege I have had of working with them. Their judgment has been very helpful to me, for they are conservative, and that is one reason why I have so benefited by their friendship and assistance.

I agree with Dr. Jamison that animal experiments are advisable in this problem, and I am glad to say we have such experiments now under way. I am trying to repeat the experiment of Neufeld, but substituting my deuteroproteose for the specific antipneumococcal serum. However, when it comes to the final analysis, I am of the opinion that, even if my deuteroproteose should not protect the white mouse from a fatal dose of pneumococcal infection, and if, on the other hand, when used on human pneumonia patients, it did reduce the death rate, this result would be most important, especially if the work included many patients, and covered various parts of the country. If we had no animal experiments whatever, and gave the deuteroproteose to patients,—if enough physicians made the test, and if their work was reliable, and if the results showed a great reduction in the death rate, that would be the crucial experiment. If on the other hand, animal experiments proved that the deuteroproteose worked perfectly on mice, protecting them against many times the lethal dose of virulent pneumococci, but clinical tests proved that it had no effect when used on pneumonia patients, then deuteroproteose would be a failure.

CHANGE

Overt changes affecting the mores of a people require long and patient effort, more especially when they concern birth, sickness, death and burial. The favorite methods of our time are legislation and preaching. These methods ultimately fail because they aim at great results in a short time.

Constant, gradual, smooth and easy readjustment is the course of things which is conducive to healthful community life. It is by no means to be inferred that everyone who sets himself at war with the traditional mores is a hero of social correction and amelioration. The trained reason and conscience never have heavier tasks laid upon them than when questions of conformity to or dissent from the mores are raised. Dissent seems to imply a claim of superiority. It evokes hatred and persecution.

The alleged intransigency of the doctors of medicine, contrary to some opinion, is not due to fear of personal material loss, but to jealousy for standards of the profession of medicine. Standards of admittance to study medicine, of medical education, and, to a large extent, even of licensure to practice the healing art, be it noted, have been created, maintained, and elevated by the profession itself, and very little by legislative enactment or pressure of public opinion. The societal value of these standards of practice has the tacit acknowledgment by the public in the willing assignment of social status and material rewards.

Changes in important social relations should be made gradually after temperate consideration. If the social trend toward hasty change for apparent immediate convenience or benefit threatens to lower hardly won standards and impair professional morale, such change in the long run will harm the public and the community far more than it will the individual practitioner of medicine. But the doctor, having special knowledge in these matters, does not desire to disassociate himself from the privileges and duties of a citizen. It is therefore his duty to direct, modify, and temper changes so as to mitigate as much as possible injurious effects.

Promote peace and a time of health will appear!

William J. Mallory, M. D.
Med. Ann. D. C., 11:361, 1938.

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WILLIAM HENRY SEEMANN
(1878-1938)

It is with the deepest regret that the editor records the death of the Chairman of the Journal Committee, William H. Seemann. The loss to the New Orleans Medical and Surgical Journal of this very efficient chairman is almost irremediable. His help and counsel were always available in the conduct of the periodical; he took a most prominent and active part in his Journal duties.

But, it is not only the Journal which will have cause to mourn the loss of Doctor Seemann. Organized medicine in the State of Louisiana and the City of New Orleans has lost one of its dominating personalities. The worth of the man was recognized during his life by the doctors of the state and parish. He was at one time President of The Orleans Parish Medical Society, and in this organization held practically every position to which a member could be elected. In 1916-1917, he was President of the Louisiana State Medical Society. He has represented the state as one of the two Louisiana delegates in the House of Delegates of the American Medical Association for twenty years. Not only on account of his long service, but also because of the wisdom of his counsel, he was without question one of the most outstanding delegates in the House who represented the various states. Doctor Seemann's services to organized medicine did not stop here. He gave help and assistance, sometimes officially, and sometimes as an unofficial adviser. Always, his decisions and ideas could be counted upon as being logical, practical and to the best interests of medicine.

Tulane University School of Medicine suffers a severe loss in the death of this brilliant teacher. Several generations of students knew him as Professor of Hygiene and Public Health in the Medical School. As President of the Tuberculosis and Public Health Association of Louisiana, he showed in a high degree how social-minded he was. He was active and busy in advancing the cause of prevention of tuberculosis and in helping those who were afflicted with the disease.

Doctor Seemann's professional life stands out. A pathologist of note and distinction for over twenty years he has been bacteriologist for the State and City Health Boards and, also, for the New Orleans Eye, Ear, Nose and Throat Hospital.

When Doctor Seemann passed away suddenly in the evening of November nineteenth, he left a devoted family, a host of loyal and devoted friends, and a tremendous group of people who knew of him and of his accomplishments and of his reputation, and admired him from a distance but who could not truly be called friends. To those who were close and dear to him, go the sincere condolences of the Journal; to those who depended upon him for help and advice in the field of organized medicine, it is the sentiment of the Journal that they have lost a leader and a supremely wise counselor.

THE GRADUATE MEDICAL ASSEMBLY

There will be held in New Orleans the first week in February, the third annual meeting of the Graduate Medical Assembly. This is unquestionably one of the outstanding medical events of the year in the city. To this meeting come a group of fifteen or sixteen distinguished and well-known specialists to talk about their special fields of work. These men present the newer advances that have occurred and bring out the most modern points of view concerning the older phases of their specialty. Consequently the attendant at the meeting is brought up to date with the present day concept of disease, and, at the same time, he is informed of the newest things that have taken place in the various branches of medicine.

The roster of speakers who have been selected this year reads like an American medical Who's Who and includes such well-known men as Gordon Heyd, Professor of Surgery in the Postgraduate School of New York and last year President of the American Medical Association; I. S. Ravdin, who is head of one of the most remarkable surgical set-ups in this country; A. U. Desjardins, internationally known for his radiologic skill; C. C. Sturgis, Professor of Medicine at the University of Michigan and W. B. Forbus, Professor of Pathology at Duke, who together will hold a clinico-pathologic conference as well as dilating upon their specialties. These details might be continued through the entire group of speakers. A sufficient number of names have been presented to indicate the caliber of the guest speakers. In addition to the opportunity of hearing more or less formal presentations there will be daily luncheons, the cost of which will be included in the registration fee and at which round table discussions will take place following the meal. The attendants will be at liberty then to ask questions and to discuss informally debatable questions with some of the leaders in medicine in this country.

This is really a remarkable opportunity given to the physician in the South to hear the leaders in medicine. Every indication points to the success of the meeting.

SULPHANILAMIDE THERAPY

This is a very hackneyed subject to discuss editorially. Everybody is using sulphanilamide from the brain surgeon to the chiropodist in the treatment of their patients. The drug is being used for everything under the sun, from corns and calluses to tuberculosis and gonorrhea. It seems to have become a medical panacea for every type of infection, good, bad or indifferent.

On account of the very widespread use of this drug it is well to remember that sulphanilamide is a powerful drug in more ways than one. At times it produces a profound effect on the human to whom it is administered, and, incidentally, of the various sulphanilamide compounds, the more effective it is against bacteria the more toxic it is to man. The toxic effects may be mild, moderate or serious.[1] The mild effects are of really no particular significance and because a patient, the first few days of taking the drug, has some giddiness, headache, loss of energy, nausea, usually slight only in character, the drug does not have to be discontinued. These mild reactions can be obviated or minimized by forcing fluids. The moderate reactions take place in about 10 per cent of patients who are given the drug. They include vomiting, diarrhea, sometimes widely spread skin rashes, scarlatiniform in character, cyanosis or pallor, shortness of breath and fever. When they take place they definitely indicate a cessation of this form of therapy. Cyanosis, dyspnea and pallor are rather definite indications that there has been some change in the blood or blood forming organs.

The serious toxic effects, it hardly seems necessary to state, should be followed by active treatment and a complete withdrawal of the drug. These symptoms include extensive purpuric rashes, high fever, toxic changes, toxic nephritis and, particularly of moment, destructive blood changes associated with marked reduction in the number of granulocytes or sometimes with evidences of blood hemolysis. Fortunately these conditions of serious portent are rare. Cokkinis reports having seen only six serious toxic effects in 1500 cases. This seems like a rather small percentage. As a matter of fact it seems it should be a bit larger. However, because serious reactions toxic in nature do occur, is no reason why this drug, despite its use in conditions in which it could not possibly be of any service, should not be administered when it is indicated. Its value is so great and results are so indisputable that a percentage of serious reactions as small as .04 per cent should not discourage the physician in using it for various types of coccal and bacterial infection, but it is too dangerous an agent to use indiscriminately, or unless the indications are definite.

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[1] Cokkinis, A. J.: Sulphonamide chemotherapy in surgical infections, Brit. Med. J., Oct. 22, 1938, p. 845.

HOSPITAL STAFF TRANSACTIONS AND CLINICAL MEETINGS

HOTEL DIEU
New Orleans

The regular monthly meeting of the Staff of Hotel Dieu was held in the Nurses' Lecture Room of Hotel Dieu on Tuesday, October 25, 1938. The meeting was called to order by the President, Dr. A. D. Mouledous, and with the Secretary, Dr. C. E. Gorman, at the desk.

Dr. John Couret presented a case of neurosarcoma of the leg with multiple metastases which was discussed from the clinical, radiologic, and postmortem standpoint. This was followed by a discussion of two cases, one of carcinoma of the renal pelvis with metastases to the liver, and the other, carcinoma of the lung, both diagnosed by aspiration biopsy.

A recess of one minute was ordered after which the meeting resolved into Executive Session.

C. E. Gorman, M. D., Sec.

HIGHLAND SANITARIUM
Shreveport

The staff of the Highland Sanitarium held its monthly meeting October 20, 1938, in the Clinic Building, following dinner at 7 p. m.

SCIENTIFIC PROGRAM

In the absence of Dr. M. S. LeDoux, Dr. W. D. Drummond presented a most interesting case of carcinomatous fistula of the abdominal wall, which occurred in a young woman. A biopsy of the fistulous tract revealed it to be adenocarcinoma, probably of intestinal origin. The case was diccussed by Drs. W. R. Mathews, C. P. Rutledge, and P. W. Winder.

Dr. Barron Johns presented two interesting cases. The first case was that of a primary adenocarcinoma of the right fallopian tube in a young woman. Dr. Johns discussed the frequency, the symtomatology, and the mortality in this condition. The second case presented by Dr. Johns was that of a perforating gastric ulcer which in its symtomatology suggested acute cholelithiasis. Gastro-enterostomy was performed. The patient had an uneventful convalescence until the fourteenth postoperative day, when spontaneous evisceration occurred. These cases were discussed by Drs. C. P. Rutledge and W. R. Mathews.

Dr. C. L. LaRue discussed the highlights of the recent meeting of the American Academy of Otolaryngology and Ophthalmology.

The Staff of the Highland Sanitarium held its monthly meeting at 8 p. m., November 17, 1938 in the Clinic Building following dinner at 7 p. m. in the Sanitarium dining room.

SCIENTIFIC PROGRAM

Dr. P. R. Gilmer gave a most interesting discussion of surgical chest conditions in which the importance of an accurate diagnosis was emphasized. Dr. Gilmer stated that surgery of the chest is divided into (1) surgery necessary for tubercular chest conditions, and (2) surgery necessary for other conditions, such as bronchiectasis and lung abscess. In his discussion, Dr. Gilmer mentioned surgical procedures such as thoracoplasty, extrapleural pneumoclysis, phrenicectomy, extrapleural pneumothorax, lobectomies and pneumonectomies. Dr. Gilmer mentioned the importance of an accurate bronchoscopic examination in many of these cases. The paper was discussed by Drs. E. C. Edwards, Henry Gallager, and W. M. Hall, and closed by Dr. Gilmer.

Dr. E. D. Rowland gave a short talk on his postgraduate studies in the Cardiology Department at Boston. Dr. Rowland discussed peripheral vascular disease and emphasized the importance of amputating the leg above the knee in gangrene of the lower extremities. The value of negative pressure treatment was mentioned. Dr. Rowland also stressed the importance of making a differential diagnosis between cardiac and bronchial asthma, and outlined the surgical treatment for angina pectoris.

P. W. Winder, M. D., Sec.

NORTH LOUISIANA SANITARIUM

Shreveport

The regular monthly meeting of the North Louisiana Staff was held on October 25, 1938, Dr. C. R. Gowen, President, and Dr. T. J. Smith acting as Secretary. There were twenty-six members present.

Minutes of the previous meeting were read, and, following this, Dr. Herold, Chairman of the Records Committee, reported that the records were open for inspection.

SCIENTIFIC PROGRAM

Dr. Hargrove opened the scientific program with report of a case of pyloric obstruction caused by malignancy of the stomach. Patient underwent operation a year ago, when a partial gastrectomy was done. Recently the patient developed symptoms of a new obstruction, making another operation necessary. Dr. Rigby discussed both original and recent operations, explaining by diagram the method used in relieving the obstruction. Dr. Mathews commented on the nature of the malignancy.

Drs. Rougon, Stamper, Youman, Edwards and Gowen discussed a case where diagnosis was very difficult. It was first thought that the patient was suffering from carbuncle of the left kidney, as the pain was in this region; however, after consultation and examination, it was finally found that the pathology, instead of being in the region of the left kidney, was an involvement of the left pleura. This patient had a history of a previous pleuritic involvement. Thoracotomy was performed by Dr. Heard and the pus drained from region of the left lung; patient made complete recovery.

Dr. Crebbin discussed a case of death following tonsillectomy.

Hospital report was read.

N. Judson Bender, M. D., Sec.

GRADUATE SCHOOL OF MEDICINE LOUISIANA STATE UNIVERSITY MEDICAL CENTER

New Orleans

The scientific meeting of November, 1938, was called by Dr. James T. Nix, Dean of the Graduate School of Medicine. Doctor J. Schumard George presented the following paper:

TEN COMPLICATIONS OF TREATED CARCINOMA OF THE CERVIX

(As noted in Tumor Clinic, Charity Hospital)

In the Tumor Clinic at Charity Hospital we have been fortunate enough to see patients with carcinoma of the cervix who have been treated by many varying methods, and we have seen numerous complications which may be of interest to both the specialist and the general practitioner.

First: Local recurrence; this often results from inadequate treatment and many times can be remedied by further irradiation. However, a word of warning should be given that irradiation by means of radium is dangerous in cases where thrombosis of the vessels still exists and we have encountered large sloughs that we feel were probably induced by application of a second large dose of radium before the local tissues had returned to their optimum resistance. In one case, I recall an enormous slough with severe hemorrhage that was finally fatal.

Second: Metastatic lesions both local in the vaginal wall and distant in viscera. These cases we have treated with poor results, usually by means of irradiation. In one case a small dose of radium was inserted in the center of a roller bandage and the bandage placed in the vagina for a short period.

Third: The anemias occurring with irradiation; these have been treated for the most part with anti-anemic diets, liver extracts and iron.

Fourth: Pyometra occurring after application of radium; this has been treated with drainage and douches, usually with fair results.

Fifth: Cervicitis and vaginitis; these are common after applications of radium, and immediately after treatment do nicely with general hygienic measures. However, we find a number of stenoses of the vagina appearing after six to twelve months. This stenosis is extremely hard to handle. It does not respond to dilatation and in a large percentage of cases grows worse, until at last there is only an extremely small opening through which we cannot visualize the cervix and are able only to guess at the extent of the lesion and the activity.

Sixth: Burns from irradiation; apart from those of the cervix, burns from irradiation are rare because of the care of the deep therapy department, but we have had some when using intra-vaginal x-ray therapy. This is due to the inadequate screening used at that time and can be remedied easily by more modern equipment.

Seventh: Pain; in a large number of cases pain is present, but it can usually be controlled by codeine. We have some patients who have had presacral sympathectomy and they are very comfortable. While it is debatable as to whether the relief obtained warrants opening the abdomen as the only indication, in those cases where it must be opened for other conditions, the patient certainly benefits from the procedure.

Eighth: Hemorrhage; while it is a serious complication, hemorrhage can often be controlled by irradiation, and often this is all that can be done for the far advanced case.

Ninth: Bladder infections; these do not seem as frequent now as we see many cases which usually respond to ordinary urinary antiseptics and irrigation.

Tenth: Proctitis; this is seen occasionally, but, like bladder infections, seems to be less frequent, and I believe the screening of the radium with platinum and the better application by means of the crepostat has made it so.

CONCLUSIONS

The complications listed above are but a few of the more common complications found in our work. It is not our intention to cover all possible complications in this paper, but to note a few of the more common ones and give our method of handling them.

HUTCHINSON MEMORIAL CLINIC

New Orleans

Symposium on Carcinoma of the Lung conducted by the Department of Surgery, Dr. Alton Ochsner presiding.

Pathology (Dr. John Lanford, Department of Pathology, Tulane University of Louisiana, and Department of Pathology, Touro Infirmary): Primary carcinoma of the lung has been receiving increasing attention during the past five years on the assumption that there is an increase in its occurrence. Since thoracic surgery has advanced and pneumonectomy can now be carried out with some hope of success, improvement in diagnosis has revealed cases which were formerly called lymphosarcoma, abscess of the lung, or some other intrathoracic pathology, and the more general increase in autopsies has helped to clarify the symptoms and enabled the clinician more accurately to interpret the symptoms. But there does appear to be a recent increased incidence as reported from many laboratories and during the past eleven years the study of the autopsy material of the Touro Infirmary reveals that 20 per cent of the postmortems were of neoplastic deaths and 9 per cent of these were primary carcinoma of the lungs.

The etiology of the condition is not known but there are a number of theories advanced as having a causal relationship which may be tabulated as follows: Tuberculosis; influenza; bronchiectasis; irritating inhalations (waste products from automobiles, chemical fumes, dust from radioactive ores, dust from stone, arsenic and cobalt mines, dust from tarred roads, tobacco). Age and sex: Females 40 to 60 years; males 39 to 70 years. Race: White; negroes less common. With the exception of the inhalation of dust laden with radioactive substances, there is no convincing evidence that any other of the above factors play any definite etiologic role.

Since these neoplasms may occur in one of several locations and forms, a classification is possible: (1) Anatomic; (a) apical (sulcus tumor of Pancoast); (b) intrabronchial or bronchiogenic; (c) hilar or central; (d) lobar or diffuse; (e) peripheral or miliary. (2) Histologic; (a) bronchial mucosa (adenocarcinoma; squamous cell, as result of metaplasia; undifferentiated—oat cell or sarcoma-like); (b) bronchial glands; (c) alveolar epithelium (?).

All writers agree that the right lung is by far more frequently involved than the left and in my 26 autopsied cases 76 per cent of the carcinomas arose in the right lung.

The principal pathologic lesions may be summarized as follows: Irritation to bronchi producing cough; hemorrhage from ulceration; atelectasis from bronchial occlusion; dyspnea partly from cardiac interference; pain resulting from pressure on nerves and pleural involvement; pressure on esophagus, trachea and recurrent laryngeal nerve; fever and leukocytosis; pleural effusion; distant metastases or dissemination (infiltration, lymphatics, blood stream).

Metastases occur in 90 per cent of cases and the following table of my observations is in accord with reports of other writers:

SITES OF METASTASIS IN ORDER OF OCCURRENCE IN 26 CASES

Site	Number of cases	Percentage
Liver	12	46
Mediastinal nodes	11	42
Adrenals	7	25
Pericardium	6	21
Kidneys	5	19
Brain	5	19
Opposite lung; heart; pancreas; pleura	3	11
Sup. vena cava; ribs; cervical, bronchial and retroperitoneal nodes; omentum	2	7.8
Pelvis; spleen; axillary nodes	1	3.8
No metastases	3	11
Only thoracic metastases	4	15

Clinical Manifestations (Dr. J. L. Wilson, Department of Medicine): The clinical manifestations of carcinoma of the lung are in most cases very slight until complications arise. The types of cases seen clinically have little relation to the type of tumor pathologically except as to the rapidity with which the tumor grows and metastasizes. Certain symptoms are common to all types: Loss of weight, weakness, low fever and secondary anemia. It is convenient to divide the cases into those of (1) uncomplicated bronchial carcinoma, and (2) carcinoma complicated by atelectasis, infection, metastasis, and location in the lung apex.

The patient with uncomplicated bronchial carcinoma comes under observation with a persistent cough for several months or a year unrelieved by medication. This in a man over 40 is the chief symptom. He may or may not have expectoration and pain, a rather vague but persistent pain not usually associated with inspiration. He may also have a history of spitting blood or blood-streaked sputum. This combination of persistent cough, chest pain and bloody sputum is the clinical picture of bronchial carcinoma itself. As for signs, these patients present very little on physical examination from the very nature of the lesion. There may be a slight roughening of the breathing or a wheeze over one lobe, a slight impairment of percussion. More commonly there are no physical signs. The roentgen ray may show very little, but good films carefully examined should show a well-defined nodule in the hilum or near it. Bronchoscopy is strongly indicated as the chief method of making a definite diagnosis.

The second type is that with atelectasis. When the tumor obstructs the bronchus we have another symptom complex. These patients have a cough and are apt to have pain. The pain tends to be continuous and increasing. There is usually shortness of breath. They may also have wheezing, dysphagia and cyanosis. In this there are definite physical signs: Dulness, diminished expansion, voice and breath sound, but no rales. The roentgen ray presents a typical picture of atelectasis. Again, we turn to bronchoscopy to furnish confirmation of the diagnosis, and even if a biopsy specimen cannot be obtained, it may show the characteristic bronchial occlusion. Of course, these first two types are still in the stage in which we want to diagnose carcinoma for successful treatment.

More often we first encounter these cases clinically when they are already complicated by infection. Then they present a picture of pneumonia, pulmonary tuberculosis, or lung abscess. They have fever, weakness and loss of weight. There is a cough productive of purulent sputum. Hemoptyses may be large. The signs are those of the infection rather than the tumor, with dulness, diminished expansion, bronchial breathing, and moist rales. There may be signs of a cavity. Clubbing of the fingers is frequently found. There may be engorgement of the veins on the chest wall. The roentgen ray is frequently misleading. Bronchoscopy is less helpful in this type. A sputum repeatedly negative for acid-fasts is important and we may find, by careful watching, cancerous tissue in the sputum.

In a large group, the picture is one of pleurisy with pain persistent after the fluid has developed. These patients have dyspnea, fever and loss of weight. They may or may not have a cough, orthopnea and gastric discomfort. The physical signs and roentgen ray are those of pleural effusion. In these cases, aspiration furnishes the most important information in diagnosis. The fluid is often bloody, especially after the first tapping, and it is negative for tubercle bacilli. We can replace the fluid with air and inspect the pleura directly through a thoracoscope or even obtain a biopsy specimen.

When metastases have occurred the presenting symptoms may be entirely non-pulmonary. In cases of brain tumor, by chest roentgenograms it is possible to pick up a considerable number of bronchial carcinomas. Another group is that of bony tumors. A third common presenting symptom is abdominal enlargement and gastrointestinal trouble in those with metastases to the liver and other abdominal viscera.

A special type, which is a little hard to fit in with the others, is that of "superior sulcus tumor." These patients have pain in the shoulder and weakness in that upper extremity with perhaps a little fever and loss of weight. Examination shows atrophy of the muscles and often a Horner's syndrome plus apical dulness, diminished breathing, and possibly rales. The roentgen ray shows an opacity at the apex and usually some destruction of the ribs or transverse processes adjacent. If there are enlarged lymph nodes at the base of the neck, a biopsy will furnish the diagnosis.

Roentgen Ray Diagnosis (Dr. M. D. Teitelbaum, Touro Infirmary): Roentgen ray diagnosis of primary lung cancer is often rendered quite difficult, not only by the protean characteristics of the tumor itself but also because of its frequent complications and sequelae. These may facilitate the diagnosis in an otherwise questionable lesion or may so completely dominate the picture that their secondary nature is overlooked. The primary tumors may be grouped as: (A) Tumors arising in a large bronchus: (1) Intrabronchial tumors: These if uncomplicated are impossible of diagnosis in routine roentgen ray films; resort must usually be made to bronchoscopy before the lesion can be discovered; (2) hilus carcinoma: This type develops when the tumor erodes the bronchial wall and invades the surrounding lung tissue. It was formerly believed to be the common and typical form, with marginal irregularity and strand-like shadows radiating from its periphery. It must be differentiated from primary tuberculosis in the adult, central pneumonia and hilus node tumors, either primary or secondary, which have broken through their capsule. (3) Lobar carcinoma; here part or all the lobe is affected, but the characteristic finding is that the disease is sharply limited by an interlobar fissure. The differential diagnosis from the film alone is exceedingly difficult, both acute and chronic pneumonias affording very similar appearances, while interlobar effusions (particularly those in the right middle lobe), syphilis and lymphogranuloma must also be considered. Occasionally, a diagnosis can be made directly when the tumor growth causes either a bulging or perforation of the interlobar septum. (B) Tumors arising in smaller bronchi or bronchioles: (1) Intralobar carcinoma: This is an expansive growth, usually originating in a bronchus or bronchiolus away from the hilus where unrestricted growth is possible. The tumor developing in this way produces a spherical mass with smooth margins. Its appearance resembles that seen in benign tumors, cysts, sarcomas of the lung, metastatic malignancy, tuberculosis (Assmann nodule), mediastinal tumors, tumors arising from the paravertebral area, aneurysm, substernal thyroid, gumma and encapsulated empyema. Unless the tumor at some point in its periphery infiltrates the lymphatics producing a break in the smooth contour or perforates an interlobar septum, the diagnosis can only be made by discovering a metastatic lesion. (2) Superior sulcus or apical carcinoma: This arises from the bronchioli at the apex of the lung, producing a localized density and usually erosion of the posterior ribs in this same area. The progress by direct extension and the usually marked clinical symptoms serve to differentiate this type of tumor from thickening of the apical pleura, chronic tuberculosis or pneumonitis and lymphoma.

The complications of the primary tumor are: (1) Metastasis; this is quite frequent, Adler reporting 74 per cent in a series of 374 cases. For the most part, the metastatic lesions are non-specific, but may be significant when associated with one of the primary forms which is not otherwise clearly identifiable. Occasionally, unilateral metastasis to the mediastinal and hilus nodes is found and this as well as a carcinomatous lymphangitis, limited to one lung, is suggestive of a bronchiogenic tumor in that lung, even though the primary lesion is invisible. (2) Bronchostenosis: Where the block of the bronchus is incomplete, but considerable (amounting to approximately two-thirds of the caliber of the bronchus), examination under the fluoroscope may show a wandering of the mediastinum to the affected side on deep inspiration. This deviation may become permanent when complete block of the bronchus has developed. In those cases where the mediastinum is fixed either by tumor or inflammation, a hernia of the normal lung may develop and the diaphragm on the diseased side becomes elevated. The establishment or absence of paradoxical motion of the diaphragm will, of course, provide a differential diagnosis. The atelectatic area may be either lobar or lobular depending upon the site of the obstruction. Differential diagnosis must be made between foreign bodies, benign bronchial tumors, chronic tracheobronchial fibrosing processes (lues and tuberculosis), hilus lymphadenopathy and aneurysm. (3) Inflammatory and regressive changes: These are probably always present to some extent since even minor degrees of bronchial occlusion must lead to stasis in the dependent pulmonary area. In many cases, however, the pneumonic process is so extensive as to overshadow the tumor and be indistinguishable from it. These patients, on repeated observations, may show alternate increase and decrease in the size of the lesion, depending upon the amount of secondary infection at any particular time. Abscess formation either in the tumor itself or in the pneumonic area is by no means infrequent and, in fact, it has been estimated that perhaps 25 per cent of all chronic lung abscesses in adults are produced by degenerating primary carcinoma. The wall of the abscess may reveal rounded proliferations of tumor tissue which are pathognomonic, but many others will be indistinguishable from pyogenic abscess. (4) Pleuritis: Approximately 35 per cent of pulmonary carcinomas metastasize to the pleura. When a free effusion is produced, its appearance may in no wise differ from that ordinarily found. However, if bronchostenosis is present or if the mediastinum is fixed by metastasis, the usual contralateral displacement of the heart and mediastinal structures may not occur and this alteration in the usual mechanics of pleural effusion is always suspicious. Westermark has noted a reversal of the normal fluid line in certain cases of atelectasis associated with pleural effusion. The alteration in intrathoracic dynamics produces a fluid line which runs laterally and downward.

Certain auxiliary methods of examination are frequently necessary before any diagnosis can be made. Of these bronchoscopy and occasionally bronchography are invaluable. Diagnostic pneumothorax is used only to distinguish intrapulmonary from pleural and mediastinal tumors and to replace pleural effusion. Roentgen ray therapy is a worthwhile diagnostic measure in that it produces regression in lymphomas and also tends to diminish the secondary inflammatory component in true carcinomas. However, in most cases the diagnosis requires a careful correlation of the roentgenographic and clinical findings.

Bronchoscopic Diagnosis (Dr. Francis E. LeJeune, Department of Otolaryngology): The cardinal indications for diagnostic bronchoscopy are clinical or roentgenologic evidences of bronchial obstruction. Early diagnosis in suspected malignant lesions is of the greatest importance. Bronchoscopy will permit a direct endoscopic view of the growth and tissue may be removed for microscopical examination. If no growth is found, evidences of infiltration and fixation must be searched for. There may be no definite involvement of the bronchial wall, only a bulge or a compression suggestive of deeper pathology. Under these conditions, biopsy must be deferred. Great care should be exercised in doing biopsy so as not to traumatize normal bronchial mucosa. It is important to inspect the lesion as carefully as possible and to obtain tissue representative of the tumor itself. Care must be exercised not to bite too deeply into the bronchial mucosa with the specimen forceps. Exuberant granulations are frequently present near the lesion and care must be taken not to include this type of tissue in the biopsy as the true type of lesion present will not be represented.

It must be borne in mind, however, that the bronchoscopist can examine and explore only the larger bronchi; while the smaller bronchi may be visualized satisfactorily, only the orifice of the upper lobe bronchi may be seen at bronchoscopy, and a growth removed from this location would be beyond the field of vision when doing bronchoscopy.

The number of cases of carcinoma diagnosed positively by bronscoscopy and biopsy varies with the type of cases selected for study. Obviously, this depends upon case selection; whether the patient gives a history of symptoms of long duration with atelectasis or advanced symptoms of bronchial obstruction. In such cases, the positive diagnosis would be close to 100 per cent. If, however, all cases of suspected new growths receive the benefit of an early broncboscopy, the percentage of positive diagnosis will drop but the final percentage of cures will be much higher.

Clerf reports that in a series of 143 cases bronchoscoped, not more than five could have been considered as suitable for surgical treatment at the time bronchoscopy was done. The small percentage of possible cures in the reported group can only mean that the vast majority of cases came to bronchoscopy relatively late. It is not always possible to make a positive diagnosis the first time bronchoscopy is performed. It frequently becomes necessary to repeat such procedures in order to arrive at a definite diagnosis. Diagnosis made in the advanced stages of carcinoma is of little value. Early diagnosis will permit the thoracic surgeon to operate with a much greater chance of obtaining successful results.

Extensive hemorrhage is not always a sign of advanced carcinoma of the bronchus. I vividly recall one case, a young man, 19 years old, who was referred because of repeated and alarming hemorrhages. It was with considerable fear that a bronchoscopy was performed and when the lesion was found at the entrance of the left bronchus it was with greater fear that a biopsy was done. A pneumonectomy was performed by the thoracic surgeon and today, this young man, though minus one lung, enjoys good health. Implantation of radon seeds, in my experience, has not proved as successful in the treatment of bronchial carcinoma as had been hoped, and while deep roentgen ray therapy offers some hope, surgery still remains the one best chance for success when dealing with these malignant conditions. Bronchoscopy is the one method in which a positive and accurate diagnosis may be obtained in carcinoma of the lung, and when done early, the bronchoscopist and the thoracic surgeon share in the satisfaction obtained by the successful eradication of a malignant condition.

Roentgen Ray Treatment (Dr. Leon J. Menville, Department of Roentgenology): My remarks shall be confined briefly to the treatment of primary carcinoma of the lung by means of the roentgen ray, and I shall not burden you with any physical and technical factors.

The mortality rate for primary carcinoma of the lung is very high, and the results obtained from any type of treatment are not comparable with those of carcinoma in other parts of the body. It is interesting to note that the average duration of life, in untreated cases of carcinoma of the lung, from the time the diagnosis is established is very short. Paterson reported that in a series of 27 cases which had not been treated, the duration of life was three and one-half months, while Leddy and Vinson, in a series of 71 proved cases, 29 of which did not receive treatment, and all are dead, the average duration of life was a little more than five months. It would seem, therefore, that any form of treatment which will prolong life, and, perhaps, in a few instances, effect a cure, is highly desirable. There are two types of treatment presently advocated—surgery and irradiation therapy. I believe that surgery in the hands of an expert surgeon will promise more in properly selected cases for probable cures than irradiation therapy. Irradiation therapy, however, also occupies an important position in the treatment of this disease. The selection of the type of treatment preferable in a given case should be determined by consultation between the surgeon, pathologist and radiologist.

In treating cases of primary carcinoma of the lung, the radiologist is confronted with several problems. He must apply an effective dose to a growth which sometimes is highly resistant, which is not uniformly distributed and surrounded by delicate structures such as the lungs and heart. These structures are susceptible to injury, particularly the lungs. The extent of the disease, the type, and the grade of the tumor are all of importance.

Personally, I have had but a limited experience in the treatment of this condition, and I shall briefly present the experience of others.

1. Manges, of Philadelphia, reported 27 cases, 22.2 per cent lived four years after treatment with the x-rays.

2. Vinson and Leddy reported 42 cases treated with irradiation therapy, 23.8 per cent lived from one to four years.

3. Herrnheiser reported 16 cases, 31.2 per cent lived five years.

From the above report it would seem that the use of the x-ray in the treatment of primary carcinoma of the lung has certainly prolonged life.

It may be well in cases of primary carcinoma of the lung to give preoperative irradiation therapy, which may help to make the patient a better operative risk, since the size of many of the tumors are made to become appreciably smaller and, again, the lymphatics, too small to be seen or felt at operation, will have received an adequate amount of therapy.

It is my opinion that the use of irradiation therapy in primary carcinoma of the lung is practically limited in most cases to palliation, but this may range anywhere from relief of symptoms to retardation of the growth of the tumor up to several years and permit the patient to accept a remunerative position.

Technic and Results of Surgical Treatment (Dr. Alton Ochsner, Department of Surgery): Treatment of carcinoma of the lung, as in most cases of carcinoma elsewhere, consists of extirpation of the lesion together with the involved lymph nodes. In the case of the lungs this consists of a total pneumonectomy on the affected side with removal of the mediastinal lymph nodes. It is my opinion that lobectomy is not justified, because this procedure does not permit adequate extirpation of the lesion and certainly does not permit the removal of the mediastinal regional lymph nodes. As approximately 75 per cent of pulmonary neoplasia are in the hilar region and involving the main stem bronchi, removal of a single lobe obviously is not sufficient.

Two methods of approach may be used. One is the anterior approach which consists of incision over the third rib followed by resection of the third rib opening the pleura through the bed of this rib. This is done after preliminary pneumothorax, which has a twofold function: (1) It gives an adequate idea concerning the presence and extent of adhesions and in this way permits the operator to determine preoperatively the method of approach; (2) by collapsing the lung on the affected side it permits an adjustment in the cardiac reserve preoperatively without imposing a sudden increase on the heart due to compression of the peripheral pulmonary bed at the time of operation. In those cases in which the lesion involves primarily the upper lobe, the anterior approach is the perferable one, whereas those cases in which the lesion is in the lower lobe, particularly if there are many adhesions, the posterior approach is more desirable because it permits division of adhesions under direct observation. After opening the pleural cavity an incision is made in the mediastinal pleura reflecting a flap of the pleura upward. In this way the hilar structures, the pulmonary vessels, and the bronchus are isolated. Each structure is individually isolated, the vessels being doubly ligated and divided. The bronchus is divided high just beyond the bifurcation and is closed by means of interrupted silk sutures. The entire group of mediastinal glands on the affected side are removed, and the lung removed in toto. Following individual ligation of the pulmonary artery and vein and closure of the bronchial stump by means of interrupted silk sutures, the mediastinum is closed by reapproximating the mediastinal flaps. The thoracic wound is closed without drainage.

In those cases in which the lesion involves primarily the lower lobe and particularly if there are many adhesions, it is desirable to use the posterior approach of Crafoord. With the patient on the unaffected side, a long incision is made beginning posteriorly over the fourth rib and extending down around the angle of the scapula and anteriorly to end over the fifth rib. The thoracic cavity is opened, incising through the bed of the fifth rib and exposing the pleural cavity through a wide incision. Through this incision it is possible to approach the hilar structures from behind. As in the anterior approach, an incision is made in the mediastinal pleura exposing the hilar structures in the mediastinum. The approach is particularly applicable on the right side, because of the difficulty which one encounters with the vena azygos and the relatively rigid bronchus as a primary procedure. Following division of the bronchus it is easier to isolate the pulmonary vessels. The approach is particularly applicable also in those cases in which there are adhesions between the lower lobe and the posterior and lateral pleurae. As in the anterior approach the hilar structures are individually divided and ligated. The pleural wound is closed in a similar way, and the wound closed completely without drainage.

Eighty-six cases of total pneumonectomy for neoplastic disease have been done, of which seven have been performed by me. The age incidences in the group are as follows: First decade, 4 per cent; second decade, 4 per cent; third decade, 6 per cent; fourth decade, 14 per cent; fifth decade, 36 per cent; sixth decade, 28 per cent, and seventh decade, 8 per cent. Seventy and five-tenths per cent of the cases with total pneumonectomy were in males and 29.4 per cent were in females. In 54.7 per cent the left side was involved, whereas in 45.2 per cent the right side was involved. Of interest is the type of neoplasm for which pneumonectomy was done: 89.3 per cent were for primary carcinoma, 6 per cent were for primary sarcoma, 3 per cent were for metastatic lesions, and 1 per cent was for benign tumor. Of the entire group of total pneumonectomies, including mine, the mortality rate was 63.9 per cent, the survival being 36 per cent. In my seven cases, five succumbed and two survived, one surviving two and a half years. The other one is still living only a few months after the pneumonectomy.

The causes of death in the 86 cases were as follows: Infection, 50 per cent; cardiac failure, 21 per cent; hemorrhage, 15.7 per cent; thrombosis and embolism, 7.8 per cent; asphyxia, 2.6 per cent, and peritonitis, 2.6 per cent. The one case of peritonitis was a case of mine in which ten days after operation the patient developed peritonitis. Autopsy revealed a perforated intestine, the result of gangrene of the bowel, which in turn was caused by mesenteric periarteritis nodosa which was in no way related to the primary malignancy of the lung or the operation. Complete autopsy revealed a well healed mediastinal wound and no evidence of metastasis.

I am of the opinion that individual ligation of the hilar structures is by far the better procedure. It is of interest that in those cases in which the technic was described, individual ligation gave a mortality rate of 64.5 per cent, whereas in those cases in which mass ligation was done the mortality rate was 83.2 per cent.

A plea is made for the early diagnosis of pulmonary carcinoma in order that extirpation of the lung can be performed at a time when the lesion is relatively small and before extensive adhesions have occurred.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR

December 1.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
December 5.	Board of Directors, Orleans Parish Medical Society, 8 p. m.
December 5.	Pathologic Conference, Hotel Dieu, 8:15 p. m.
December 6.	Eye, Ear, Nose and Throat Hospital Staff, 8 p. m.
December 7.	Radio Talk, Orleans Parish Medical Society, 8:45 to 9 a. m., W. D. S. U.
December 7.	Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
December 7.	Hutchinson Memorial Clinic Staff, 8 p. m.
December 7.	Mercy Hospital Staff, 8 p. m.
December 8.	Clinico-pathologic Conference Touro Infirmary, 11:15 a. m. and 12:15 p. m.
December 10.	Election of Officers, Orleans Parish Medical Society. Balloting between 10 a. m. to 12 noon; 2 to 5 p. m., and 7 to 8:30 p. m. Annual dinner follows.
December 12.	Thirteenth Stanford E. Chaille Memorial Oration, 8 p. m.
December 13.	Eye, Ear, Nose and Throat Club, 8 p. m.
December 14.	Radio Talk, Orleans Parish Medical Society, 8:45 to 9 a. m., W. D. S. U.
December 14.	Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
December 14.	Touro Infirmary Staff, 8 p. m.

December 16.	I. C. R. R. Hospital Staff, 12 noon.
December 16.	New Orleans Dispensary Staff, 8 p. m.
December 19.	Hotel Dieu Staff, 8 p. m.
December 20.	Charity Hospital Medical Staff, 8 p. m.
December 21.	Radio Talk, Orleans Parish Medical Society, 8:45 to 9 a. m., W. D. S. U.
December 21.	Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
December 21.	Charity Hospital Surgical Staff, 8 p. m.
December 22.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
December 27.	Baptist Hospital Staff, 8 p. m.
December 28.	Radio Talk, Orleans Parish Medical Society, 8:45 to 9 p. m., W. D. S. U.
December 28.	Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
December 28.	French Hospital Staff, 8 p. m.
December 29.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
December 30.	L. S. U. Faculty Club, 8 p. m.

During the month of November the Society held two regular meetings and one special meeting. At the regular meeting of November 14, the following program was presented:

Treatment of Headache with Theelin: Case Report

By:........................Dr. Richard S. Crichlow

The Historic Development and Modern Application of Artificial Fever.

By:........................Dr. Upton Giles

Discussed by Drs. Erwin Wexberg and Nathan H. Polmer, and closed by Dr. Giles.

Peritoneoscopy

By:........................Dr. Gordon McHardy

Discussed by Drs. W. H. Meade, Warren Hebert and closed by Dr. McHardy.

Dr. Oscar W. Bethea presented a new restraining belt.

A special meeting was called by the President and Board of Directors for Monday, November 21, to discuss the question of whether or not The Orleans Parish Medical Society wanted a plan of medical service for the so-called low income group. This meeting was very well attended and it was voted to have the special committee continue.

At the meeting of November 28, the following program was presented:

Experiences and Comments on the Doctor in Court

By:........................Dr. Isidore Cohn

Discussion by Dr. W. P. Bradburn.

The Problem of Ulcerative Colitis

By:........................Dr. A. L. Levin

Discussed by Drs. James T. Nix, Donovan C. Browne and closed by Dr. Levin.

The following delegates to the Louisiana State Medical Society were elected for a term of two years:

DELEGATES

Dr. Shirley C. Lyons
Dr. Waldemar R. Metz
Dr. C. Grenes Cole
Dr. Frank J. Chalaron
Dr. Roy B. Harrison
Dr. Leon J. Menville
Dr. George H. Hauser
Dr. James D. Rives
Dr. Edwin L. Zander
Dr. Daniel J. Murphy
Dr. John Signorelli
Dr. Paul G. Lacroix

ALTERNATES

Dr. John A. Lanford
Dr. Philip H. Jones
Dr. H. Ashton Thomas
Dr. W. Rogers Brewster
Dr. Isidore Cohn
Dr. M. M. Hattaway
Dr. George D. Feldner
Dr. Charles L. Cox
Dr. Edward F. Bacon
Dr. Roy W. Wright
Dr. J. M. Perret
Dr. T. Hilman Oliphant

The following doctors were nominated for officers for 1939. Election of these officers will be held Saturday, December 10. Balloting shall take place between 10 a. m. and 12 noon; 2 and 5 p. m., and 7 and 8:30 p. m. Only members in good standing are eligible to vote. PLEASE PAY YOUR DUES NOW.

NOMINATIONS

PRESIDENT: Dr. Cassius L. Peacock.
Endorsed by Drs. Frank J. Chalaron and Wm. H. Harris.

FIRST VICE-PRESIDENT: Dr. Edmond L. Leckert.
Endorsed by Drs. Roy B. Harrison, S. Hobson, J. Kelly Stone, and Edwin L. Zander.

SECOND VICE-PRESIDENT: Dr. Lucien A. Fortier.
Endorsed by Drs. L. C. Chamberlain, Frank Chetta, W. A. Gillaspie, Daniel J. Murphy, Jerome E. Landry, P. B. Salatich, Ambrose H. Storck.

THIRD VICE-PRESIDENT: Dr. Andrew F. Friedrich.
Endorsed by Drs. Geo. E. Barnes, Robert Bernhard, Pascal L. Danna and Waldemar R. Metz.

SECRETARY: Dr. Gilbert C. Anderson.
Endorsed by Drs. Thomas E. Clements, E. L. Leckert, H. C. Magee, and Walter J. Otis.

TREASURER: Dr. Edwin H. Lawson.
Endorsed by Drs. Elizabeth Bass, L. C. Chamberlain, and Edwin L. Zander.

LIBRARIAN: Dr. Donovan C. Browne.
Endorsed by Drs. Edwin H. Lawson and Shirley C. Lyons.

ADDITIONAL MEMBERS BOARD OF DIRECTORS

Dr. Henry B. Alsobrook. Endorsed by Drs. Frank J. Chalaron, W. A. Gillaspie, and E. L. Leckert.

Dr. George H. Hauser. Endorsed by Drs. C. Grenes Cole, Theo. F. Kirn, E. L. Leckert and Alton Ochsner.

Dr. Shirley C. Lyons. Endorsed by Drs. Gilbert C. Anderson, Donovan C. Browne, and L. C. Chamberlain.

Following the election, the annual dinner of the Society will be held at Arnaud's at 8:30 p. m. The members are urged to purchase their tickets from the chairman, Dr. H. B. Alsobrook, or from the secretary's office. Tickets $1.25.

The Board of Directors approved the action taken by the Charity Hospital Intern Staff in soliciting funds for portraits of Sister Stanislaus, and Drs. Rudolph Matas and George S. Bel. This honor is being conferred on these three individuals because of their long service to the medical profession. All members are urged to send in their small contribution of not more than one dollar to help make this a successful campaign.

The following doctors were elected to active membership: Drs. Sam Bergman, Albert E. Casey, Chester S. Fresh, Joseph R. Kriz, Christopher L. Mengis and Rafael B. Riera. Dr. Claude J. Bordenave was reinstated to active membership. Dr. R. W. Todd transferred his membership from Avoyelles to Orleans Parish.

Dr. Don Julian Graubarth addressed the Bi-Parish Medical Society at Ferriday, Louisiana, October 27, and the Parent-Teacher Association at Jonesboro, Louisiana, on October 26. On October 24 Dr. Graubarth gave a refresher course in pediatrics at Ruston.

At a recent meeting of the Eye, Ear, Nose and Throat Club, Dr. E. Garland Walls was elected president, and Dr. William B. Clark, secretary-treasurer.

Dr. Alfred Gage resigned as an active member to assume duties as one of the officers of the Medical Department of the Standard Oil Company in New York.

Drs. Allan Eustis, John T. O'Ferrall and Roy E. de la Houssaye addressed the East Mississippi Medical Society at their meeting held October 12 at Meridian.

Drs. Edgar Burns and Chaille Jamison were guest speakers at the semi-annual meeting of the Eighth District Medical Society meeting in Alexandria, October 17.

Dr. John H. Musser was a guest speaker at the Interstate Post-Graduate Medical Assembly at Philadelphia, November 3, and the Philadelphia College of Physicians, November 7.

Members of the society attending the quarterly meeting of the North Mississippi Medical Society and Extension Course in Syphilology given by the Division of Medical Extension of Tulane University at the University of Mississippi, Oxford, November 8 and 10, were: Drs. Conrad G. Collins, B. J. DeLaureal, Hiram W. Kostmayer, Maxwell E. Lapham, Francis E. LeJeune, Alton Ochsner, and M. T. Van Studdiford.

Dr. I. M. Gage addressed the Sebastian County Medical Society in Fort Smith, Arkansas, November 5, the title of his paper being, "Preoperative and Postoperative Treatment."

Dr. Charles C. Bass attended the meeting of the Association of American Medical Colleges in Syracuse, New York, October 24-27.

Dr. Ansel Caine attended the Anesthesia Travel Club held in Madison, Wisconsin, and Rochester and Minneapolis, Minnesota, during the week of October 11, and the Anesthesia Research Society and the Association of Anesthetists of the United States and Canada in New York City, October 16-21.

Dr. Leon J. Menville attended the meeting of the Radiological Society of North America in Pittsburgh, November 27-December 3.

Dr. Frederick F. Boyce has been certified by the American Board of Surgery. It is understood that Dr. Boyce is the first surgeon in Louisiana to be certified by examination.

Dr. Jeanne Roeling-Hanley has been certified by the American Board of Otolaryngology.

Dr. C. Gordon Johnson was recently appointed New Orleans surgeon of the Louisiana and Arkansas Railroad.

Drs. James E. Bailey and Clarence P. May were appointed to the board of the Public Welfare Department of the New Orleans Council of Parents and Teachers.

Dr. Guy A. Caldwell attended a meeting of the secretaries of the American Medical Association in Chicago, November 30-December 5.

Drs. C. C. Bass and Ernest Carroll Faust attended the meetings of the National Malaria Committee, the American Society of Tropical Medicine and the American Academy of Tropical Medicine.

The following members attended the recent meeting of the Southern Medical Association in Oklahoma City: Drs. Ruth Aleman, Charles C. Bass, Elizabeth Bass, Philip Bayon, Merrill C. Beck, Charles J. Bloom, Donovan C. Browne, Clyde Brooks, Edgar Burns, Wiley R. Buffington, Guy

A. Caldwell, Maurice Couret, Joseph S. D'Antoni, Theodore J. Dimitry, Dean H. Echols, Ernest Carroll Faust, Peter Graffagnino, Bela Halpert, Ben R. Heninger, James K. Howles, Edward L. King, F. E. Lamothe, John A. Lanford, Maxwell E. Lapham, Edwin H. Lawson, Maurice Lescale, A. L. Levin, Lucien A. LeDoux, Randolph Lyons, J. T. O'Ferrall, Joseph W. Reddoch, W. C. Rivenbark, J. D. Rives, Earl Conway Smith, Thomas B. Sellers, Herbert J. Schattenberg, J. R. Schenken, H. V. Sims, Carroll Smithers, H. Randolph Unsworth, M. T. Van Studdiford, Fred K. Vaughan and Theodore H. Watters.

TREASURER'S REPORT

Actual book balance: 9/30/38:	$3,745.59
October credits:	$ 325.56
Total credits:	$4,071.15
October expenditures:	$ 600.88
Actual book balance: 10/31/38	$3,470.27

LIBRARIAN'S REPORT

During October, 25 volumes have been added to the Library. Of these 9 were received by gift and 16 from the New Orleans Medical and Surgical Journal. New titles of recent date are listed below.

The Library has loaned to doctors, during October, 1,021 books and journals, or about two to each member of the society. In addition, 1,049 volumes have been loaned to students for overnight use, making a total of 2,070 for the month.

These figures do not include the great use of books and journals within the Reading Rooms.

Members of the staff have collected material on the following subjects:

Surgical therapy of gonorrhea in the female
Personal bibliography of D. C. Browne
Anacidity
Suspension laryngoscopy
Birth control
Fracture of the shaft of the tibia
Ophthalmic nursing
Luetic ulcers
Vascular disease
Acute abdomen
Sulfanilamide
Hypotension
Silicosis
Calcium in relief of pain
Chordotomy
Nervous imbalance in childhood
X-ray therapy in cancer of prostate

NEW BOOKS

Hotel Dieu (New Orleans): Collected Papers of the Staff, 1937.

Surgeon-General's Office: Index Catalogue, v. 3, Series 4, 1938.

American Type Culture Collection: 1938.

Andrews, G. C.: Diseases of the Skin, 1938.

DeLee, J. B.: Principles and Practice of Obstetrics, 1938.

Bridges, M. A.: Dietetics for the Clinician, 1937.

Hunter, R. H.: Aids to Embryology, 1938.

Gilbert, M. S.: Biography of the Unborn, 1938.

Herman, Leon: Practice of Urology, 1938.

Lasher, W. W.: Industrial Surgery, 1938.

Miller, Robert: Applied Anatomy, 1938.

Stepp, W.: Vitamins and their Clinical Application, 1938.

Hartwell, H. A.: What's Wrong With Me?, 1938.

Winternitz, M. C.: Biology of Arteriosclerosis, 1938.

Stewart, C. P.: Clinical Chemistry in Practical Medicine, 1937.

Goodall, Alexander: Aids to Histology, 1938.

Brenner, E. C.: Pediatric Surgery, 1938.

Gilbert C. Anderson, M. D.,
Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

Louisiana State Medical Society	April 24-26, 1939	Alexandria, La.

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

District	Date	Place
Second District	Third Thursday of every month	No Business Meeting in December.

Parish	Date	Place
East Baton Rouge	Second Wednesday of every month	Baton Rouge.
East and West Feliciana	First Wednesday in December	Clinton.
Orleans	Second and fourth Monday of every month	New Orleans.
St. Tammany	Second Thursday in December	Slidell.

DRIVE FOR MEMBERSHIP

To the Members of the State Society:

The entire membership of the State Society has been notified, through the Secretary-Treasurer's office, of the fact that dues for 1939 should be paid in December, 1938. The object of this is apparent as the early payment of dues will give us a correct interpretation of the delinquencies throughout the state so that we may devote our activities and energies in localities contemplated to do us the most good.

In our membership drive for 1938 we feel that we have accomplished a great deal. We have reached the largest numerical strength in the history of our organization, and we have reason to believe that, with the concerted efforts of the Councilors and the officers of the district and parish organizations, we will be able to continue this progress in 1939. Therefore, it behooves us to insist upon our members attending to this detail as promptly as possible in order that we may survey the results and begin our activities to secure delinquent members for 1939 early.

Through the cooperation of the various forces throughout the state, led by our President, Dr. O'Hara, the results obtained were possible, and it is therefore fitting and proper that this cooperation should continue so that we may more adequately bring the membership of the State Society to a status where it should rightly be.

May we depend upon you for this cooperation?

Yours for a successful 1939.
P. T. Talbot, M. D.,
Secretary-Treasurer.

HOTELS FOR STATE SOCIETY MEETING

For the information of those who plan to attend the meeting of the Louisiana State Medical Society in Alexandria, April 24-26, 1939, hotel accommodations as here listed will be available: Hotel Bentley: 300 rooms, all with baths, single $3.50 to $4.50, double $4.00 to $6.00; Rapides Hotel: 73 rooms, with bath $1.50 to $2.00, without bath, $1.25 to $1.50; Evangeline Hotel: 60 rooms with baths, $2.00 to $2.50.

Reservations can be made direct with the hotel or by communicating with Dr. L. D. Gremillion, Chairman of the Hotel Committee, Alexandria.

CONCORDIA-CATAHOULA BI-PARISH MEDICAL SOCIETY

The Concordia-Catahoula Bi-Parish Medical Society met in regular session October 27, 1938, at 7:30 p. m., in the Sunday School Room of the Methodist Church, in Ferriday. When this society meets the first item is always a good dinner, and it should go without saying that the settings are always most pleasant. This meeting was our best this year. We had visitors from Natchez and three visiting speakers from Monroe, many miles away.

Dr. J. B. Vaughan, Councilor of the Fifth District, came over from Monroe, and with him was Dr. Don Julian Graubarth, a New Orleans pediatrician, who was presenting a lecture course in Ruston under the sponsorship of the State Medical Society and the State Board of Health. Dr. A. Scott Hamilton, orthopedist from Monroe, was also present.

Dr. Graubarth spoke on immunzations for children: when they should be given, and what results might be expected of these agencies. Dr. Hamilton talked about the treatment of infantile paralysis in the home by the general practitioner, and ran an excellent film showing just how the patient is handled until he is about on the street again. Dr. Vaughan spoke on medical economics, not the generalized subject, but the every day economics of the average physician, drawing on his own long experience and that of his associates for his subject matter. It was a timely and impressive talk and closed a very instructive and enjoyable evening.

John Schreiber, M. D., Sec.

OUACHITA PARISH MEDICAL SOCIETY

The Ouachita Parish Medical Society had its regular meeting on October 13, 1938. Following routine reading of correspondence, which included pamphlets from the State Society relative to public health services in doctors' offices and from the New Orleans Graduate Medical Assembly announcing the meeting in February, 1939, Dr. M. W. Hunter presented an outline of a plan by the Red Cross to give group instruction in maternal and infant care. This was turned over to a committee for consideration.

An interesting paper with supplementary motion pictures, entitled "Diabetes in Infancy and Childhood," was read by Dr. P. H. Herron, Dr. D. I. Hirsch, who was to appear on the program, was absent.

Dr. J. B. Vaughan moved that a committee be appointed to write a letter to the hospital extending the sympathy of this society over the death of Sister Reginald. Motion carried. Dr. J. E. Walsworth moved that a committee be appointed to study the Orleans Parish Public Welfare Plan as oultined in the September issue of the New Orleans Medical and Surgical Journal and report to this society. Motion seconded and passed. A second motion by Dr. Walsworth, that a special meeting be called October 20 to discuss the economic problems as we see them today, was carried.

At the regular meeting of the Ouachita Parish Medical Society on November 3, Drs. McHenry and Simonton reported on six cases of proved streptococcal pneumonitis treated successfully with sulfanilamide. Dr. Vaughan told of his own experience in similar cases.

Dr. Titche read a paper, entitled "X-ray Therapy of Acute and Chronic Otitis Media," in which he reported 70 cases, with almost uniformly beneficial or curative results.

A paper on the "Toxemias of Pregnancy" by

Dr. C. N. Johnson was read by the secretary. This paper had to do with the theories of causation and standard recognized treatment.

Dr. C. P. Gray, Jr., reporting for the committee appointed to report on the Red Cross Instruction Plan, reviewed the plan. It was decided to take the matter up at the December meeting. Dr. Walsworth, reporting for the Welfare Plan Committee, stated that a workable plan would be worked out by the next meeting and asked for suggestions.

At a special meeting on November 14, called to formulate a workable plan to be carried out in conjunction with the Farm Security Administration, a general discussion was held by the eighteen members and two visitors (Drs. Wood and Cummins) present.

A committee composed of Drs. Walsworth, Coon, and Murphy was appointed, and, by unanimous vote, the society agreed to abide by any plan which this committee, working with the FSA representatives, might agree upon.

C. B. Flinn, M. D., Sec.

RAPIDES PARISH MEDICAL SOCIETY

The Rapides Parish Medical Society held its regular meeting at the Baptist Hospital in Alexandria, Monday, November 7. The scientific presentation by Dr. King Rand was a paper entitled "The Painful Breast."

J. A. White, Jr., M. D., Sec.

SECOND DISTRICT MEDICAL SOCIETY

The Second District Medical Society met at the home of Dr. J. E. Clayton, Norco, November 17, 1938. The following members were present: Drs. Clayton, Herrin, Waguespack, P. A. Donaldson, Feucht, Parker, Sharp, George, Edrington, Gray; Silverman, Kopfler, Friedrichs and Clark. The guests were Drs. H. T. Simon, Louis Levy, W. H. Harris, P. T. Talbot, R. M. Willoughby and H. B. Alsobrook.

Dr. Louis Levy presented an interesting paper entitled "Transfusion in Medical and Surgical Practice." The paper was discussed by Drs. Silverman, Edrington, Harris, Waguespack and Friedrichs, and a vote of thanks was given to the speaker for his presentation.

Applications for membership in the society were received from Drs. J. J. Massony, P. P. LaBruyere, Jr., and Chester Fresh, and, being found in proper order, were accepted.

Following the meeting, a most delicious dinner was served by Mrs. Clayton.

There will be no business meeting in December as Drs. Harrison, Alsobrook, Peacock and Harris will entertain the members of the society on the evening of December eighth.

Fred S. Herrin, M. D., Sec.

TANGIPAHOA PARISH MEDICAL SOCIETY

The regular meeting of the Tangipahoa Parish Medical Society was held on Thursday, November 10, at the Casa de Fresa Hotel, with Dr. A. L. Lewis presiding. The following members were present: Drs. Lewis, Smith, W. T. Newman, A. J. Newman, Gautreau, Gates, Ricks and Thames.

A representative of the Farm Security Administration discussed their plan for financing medical services for farm families who are receiving assistance from the FSA. The majority of those present voted in favor of this plan.

Dr. H. Theodore Simon, a New Orleans orthopedist and member of the staff of Louisiana State University Medical Center, gave a very instructive talk on fractures of extremities with excellent lantern slides and movie demonstration.

Officers for 1939 will be elected at the next regular meeting.

J. DeLoach Thames, M. D., Sec.

DOCTOR JOACHIM HONORED

A much beloved and greatly admired physician, Dr. Otto Joachim, was paid tribute to on Friday, November 11, by the members of the New Orleans Eye, Ear, Nose and Throat Society. A dinner was given to Doctor Joachim, succeeding which he was presented with a gold pen and pencil. The occasion marked Doctor Joachim's seventy-fifth birthday and his fiftieth anniversary as a pioneer specialist in eye, ear, nose and throat work in New Orleans.

THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

The Third Annual Assembly, February 6-9, will bring to New Orleans eighteen honor guests of national reputation. Some of these speakers have been mentioned in a previous article, namely, Ringer, Ebaugh, Heyd and Ravdin.

The Section on Anesthesia will be presented by Dr. Harry James Shields of Toronto. Dr. Shields has been a member of the Anesthetic Staff of the University of Toronto and the Toronto General Hospital since 1915, and the chief anesthetist since 1935. His presentations have been selected to be of general interest to all groups and are as follows: "A Consideration of Anesthetic Procedures in a Large Canadian Hospital" and "Spinal Anesthesia as Practiced in the Toronto General Hospital."

Dr. William P. Wherry, Professor and Head of the Department of Otorhinolaryngology at the University of Nebraska College of Medicine, will place particular emphasis on what the general practitioner should know of the ear, nose and throat. A separate luncheon will be held for otolaryngologists, at which time Dr. Wherry will discuss "Deafness" and "Mandibular Joint Diseases."

The Section on Pediatrics will have as their honor guest Dr. Frederick F. Tisdall. Dr. Tisdall is the Director of the Research Laboratories of the Hospital for Sick Children and Chairman of the Committee on Nutrition, Canadian Medical Association. The titles of Dr. Tisdall's presentations are "The Role of Nutrition in the Care of Your Patient" and "The Prevention and Cure of Vitamin and Mineral Deficiencies."

Dr. Arthur U. Desjardins, head of the Section on Therapeutic Radiology of the Mayo Clinic and Professor of Radiology in the Mayo Foundation, will present "The Radiosensitiveness of Cells and Some Medical Implication" and "Clinical Radiotherapy from the Standpoint of the Internist, Surgeon, Pathologist and Radiologist."

The Clinical Pathological Conference will afford a satisfying opportunity for the diffusion of medical knowledge. This conference will be conducted by the guest pathologist Dr. Wiley D. Forbus, and Dr. Cyrus C. Sturgis. Dr. Forbus is Professor of Pathology at the Duke University School of Medicine; Dr. Sturgis is Professor of Medicine, University of Michigan Medical School and Director of the Department of Internal Medicine, University Hospital, Ann Arbor, Michigan. Dr. Sturgis is also Director of the Thomas Henry Simpson Memorial Institute for Medical Research. In addition to conducting the Clinical Pathological Conference, Dr. Forbus will talk about "Variations in Morphological Reaction to Injury Considered in Relation to the Determining Factors" and "The Clinical and Pathological Aspects of Chronic Pyelonephritis." The titles of Dr. Sturgis' addresses are "The Menace and Treatment of Obesity" and "The Treatment of the Anemia of Pregnancy."

It will be noted from the topics already mentioned, and also from future articles, that the program of the Assembly has been planned to meet the needs of all members of the profession, and particularly those in general practice. Although the subjects will be approached from specialized viewpoints, the presentations will be of a strictly practical nature and of great value in keeping all groups abreast with medical progress.

THE CHRISTMAS SEAL SALE

"The fight to control tuberculosis has become the fight to eradicate tuberculosis" in the words of Dr. Kendall Emerson of the National Tuberculosis Association, Dr. W. H. Seemann, the late President of the Tuberculosis and Public Health Association of Louisiana stated recently at the opening of the annual Christmas Seal Sale, funds from which finance the war against disease throughout the United States. This is the thirty-second consecutive year in which the nation-wide sale has taken place.

"With the funds raised by the sale of Christmas Seals," Dr. Seemann pointed out, "tuberculosis associations have been instrumental in creating a nation-wide machinery to combat the insidious sickness that for many years was the leading cause of death in the United States.

"As a result of the use of comparatively small sums of money raised in thousands of local communities and of the educational campaign that has accompanied it, there are today in the United States 1,200 institutions, hospitals and sanatoria, providing 95,000 beds for the treatment of tuberculosis patients. Over 10,000 public health nurses devote their energies to tuberculosis work. There are more than 1,000 clinics where men, women and children may go for advice and diagnosis. Well organized rehabilitation work is conducted in many parts of the country while medical research is making valuable contribution to our knowledge of the tuberculosis germ and its effects upon mankind."

The public today knows much more about the prevention and treatment of tuberculosis than it did thirty years ago, Dr. Seemann stated, adding that because of this he did not consider tuberculosis associations too optimistic in aiming for a low death rate which will one day approach the zero mark.

"We have not made the progress in Louisiana that is shown in some other sections of the country," said Dr. Seemann. "Latest statistics show that with us tuberculosis is third, not seventh, as a cause of death. However, we are carrying on an intensive war along lines proved successful by National Tuberculosis Association and extending our program to additional communities of the state each successive year.

"Our need at this time is to realize clearly existing conditions in our individual communities, and the remedies that may be applied. The procuring of funds necessary to that application must follow."

The Tuberculosis and Public Health Association of Louisiana has a state-wide organization which includes affiliated groups in 55 parishes. These are at present engaged in carrying on the 1938 Seal Sale. The New Orleans Tuberculosis Committee, Dr. John H. Musser, Chairman, is the local group in Orleans Parish. Miss Marietta Rocquet is Executive Secretary at 701 Hibernia Bank Building.

Headquarters for the state association are located at 535 St. Charles Street under the direction of Mrs. John M. McBryde, Executive Secretary.

DIAGNOSTIC STANDARDS OF TUBERCULOSIS

A "Tentative Edition of Diagnostic Standards," for tuberculosis of the lungs and related lymph nodes, has just been issued in pamphlet form by the National Tuberculosis Association through its

Committee on Diagnostic Standards, appointed in 1936 and headed by Dr. Fred H. Heise, Medical Director of Trudeau Sanatorium, Saranac, N. Y.

Both primary and reinfection tuberculosis are described under the heading, "Pathogenic Development of Pulmonary Tuberculosis."

"It is not always possible on clinical and roentgenologic evidence to differentiate primary and reinfection tuberculosis," says the committee. "It is important, however, to recognize the pathogenic phase in which a given lesion presents itself, since such knowledge is, within strict limitations, the safest available prognostic criterion."

The committee deals with the clinical course of tuberculosis correlated with pathologic conceptions. It continues: "The early pulmonary infiltration, the most common early lesion of reinfection, and the precursor of most of the chronic and fatal tuberculosis in adults may apear at any age, but most frequently between eighteen and thirty or thirty-five (in negroes, a few years earlier). The onset may be symptomless, devoid of abnormal physical signs, and denoted only by the appearance in the roentgenogram of a soft, mottled or cloudy patch. Symptoms, when present, are constitutional: mainly fatigue, loss of energy and a small loss of weight; when more severe, they suggest grippe and the lesion may resemble grippal pneumonia."

Failure to find tubercle bacilli in the sputum does not rule out cavity, the report states. Excavation usually is the beginning of progressive pulmonary tuberculosis and prevention of closure of the cavity is the most important single feature of clinical recovery. Otherwise, contamination of other parts is inevitable.

The tuberculin test, x-ray evidence, the history of exposure, symptoms and clinical manifestations, physical signs and laboratory methods are included under the section, "Diagnosis of Tuberculosis." Constitutional and local symptoms are explained in detail. The extent of pulmonary lesions is explained in a descriptive summary, as are observations bearing on cases considered arrested or quiescent.

A form for the description and classification of common thoracic lesions is included in the pamphlet. There are no important changes from former diagnostic standards in the sections on location and extent of lesions.

The National Tuberculosis Association offers the pamphlet tentatively "in order that it may be tried out by clinicians and public health administrators." It welcomes comments from both specialist and general practitioner. This is the eleventh issue of "Diagnostic Standards." The publication does not attempt to formulate new or original principles, but only to incorporate those which are already well established.

The committee includes, besides Dr. Heise, Dr. H. E. Kleinschmidt, Director of Health Education of the National Tuberculosis Association, who served as secretary; Dr. J. Burns Amberson, Jr., Tuberculosis Division, Bellevue Hospital, New York, N. Y.; Dr. G. Burton Gilbert, Secretary of the Colorado School of Tuberculosis, Colorado Springs, Colo.; Dr. R. H. Kanable, Superintendent of the Wyoming State Tuberculosis Sanatorium, Basin, Wyo.; Dr. John H. Korns, Bureau of Tuberculosis, Department of Health, Cattaraugus County, Olean, N. Y.; Dr. F. M. McPhedran, Research Department, Germantown Hospital, Germantown, Penna.; Dr. Max Pinner, Chief of the Division of Pulmonary Diseases, Montefiore Hospital, New York, N. Y.; Dr. C. A. Stewart, University of Minnesota Medical School, Minneapolis, Minn. and Dr. P. A. Yoder, superintendent of the Forsyth County Sanatorium, Winston-Salem, N. C.

These booklets may be purchased from the Tuberculosis and Public Health Association of Louisiana. A nominal charge of five cents is charged to defray part of the expenses. The organization is paying the additional cost in order that these very valuable booklets may be available to the physicians of the state.

NEW MEMBERS

The following new members have joined the Louisiana State Medical Society during the months of October and November: Drs. Orien E. Dalton, of New Iberia; Horace W. Boggs, of Shreveport; J. B. Montgomery, of Lafayette; C. J. Saloom, of Lafayette; Edwin H. Byrd, of Winnsboro.

RADIO TALKS

Louisiana radio listeners in all parts of the state are urged by Dr. J. A. O'Hara, State Health Officer, to tune in on the weekly radio programs sponsored by the American Medical Association, which were resumed for the 1938-39 season October 19. These programs will be heard at 1 p. m. (Central Standard Time) every Wednesday through stations of the Blue network of the National Broadcasting Company. They do not consist of health talks but are half-hour dramatizations, written and produced by professional radio artists, with orchestra accompaniment. They are prepared on the basis of information furnished by the A. M. A. Bureau of Health Education. They are intended to supplement, dramatize and enrich health instruction in the schools, but not to take the place of classroom instruction, textbooks or project teaching.

APPROACHING MEETING

The Southern Section of the American Laryngological, Rhinological and Otological Society will meet in New Orleans, Saturday, January 14, 1939, at the Roosevelt Hotel. The meeting will start at 9 o'clock in the morning and papers will be presented by prominent otolaryngologists of the South. The profession is cordially invited to attend.

SOUTHERN MEDICAL ASSOCIATION

Members of the Louisiana State Medical Society attending the meeting of the Southern Medical Association in Oklahoma City were: Drs. P. D. Abramson, W. H. Browning, H. G. F. Edwards, A. A. Herold, J. E. Knighton, R. T. Lucas, W. R. Mathews, C. P. Rutledge, R. L. Simmons, S. G. Wolfe, and J. R. Stamper, all of Shreveport; S. J. Couvillon, Moreauville; T. A. Dekle, Jonesboro; G. T. Gallaspy, A. S. Hamilton, R. J. Talbot, Monroe; M. T. Green, J. H. Wells, J. J. Bennett, J. E. Crawford, Ruston; R. U. Parrott, Ansley; H. T. Rogers, Winnsboro; R. R. Ward, Bogalusa; J. P. Davis, Lake Providence, D. W. Kelly, Oak Grove; W. M. McBride, Hodge; J. P. Sanders, Caspiana; C. O. Lorio, Baton Rouge; S. N. Nicholas, Oil City.

RESIDENCY IN MEDICINE

There is an opening for a man who would like to accept immediate residency in medicine at a salary of $100 a month in one of the hospitals in the state. He must have served a residency of at least one year to be available. Details may be obtained from the office of the Journal.

SCIENTIFIC EXHIBIT
AMERICAN MEDICAL ASSOCIATION

Application blanks are now available for in the Scientific Exhibit at the St. Louis Session of the American Medical Association, May 15-19, 1939. Attention is called to the fact that the meeting is a month earlier than usual, and applications close January 5, 1939. Blanks will be sent on reqnest to the Director, Scientific Exhibit, American Medical Association, 535 North Dearborn St., Chicago Ill.

INFECTIOUS DISEASES IN LOUISIANA

Dr. J. A. O'Hara, epidemiologist for the State of Louisiana, has furnished us with the weekly morbidity reports for the state, which contain the following summarized information: For the forty-first week of the year, ending October 15, the following diseases occurred in numbers greater than ten: 89 cases of syphilis, 39 of pulmonary tuberculosis, 28 of cancer, 27 of pneumonia, 19 of diphtheria, 18 of scarlet fever and 12 of malaria. For the next week, ending October 22, syphilis as usual led all reportable diseases with 95 cases, followed by 65 of measles, 54 of pulmonary tuberculosis, 30 of diphtheria, 27 of cancer, 19 of typhoid fever, and 17 each of malaria and whooping cough. The typhoid fever cases were scattered pretty well throughout the state although eight were reported from Orleans Parish. A case of typhus fever was discovered in East Baton Rouge Parish, and one of undulant fever in Winn Parish. The following week, which came to a close October 29, showed the following principal reportable diseases: 65 cases of syphilis, 33 of pulmonary tuberculosis, 25 of diphtheria, 21 of cancer, 16 of pneumonia and 13 each of malaria and scarlet fever. The next week, the important diseases listed were 77 cases of syphilis, 44 of measles, 24 of gonorrhea, 21 of scarlet fever, 20 of pulmonary tuberculosis, 16 of cancer, 14 of pneumonia and 11 of diphtheria. A patient with poliomyelitis was found in Tangipahoa Parish and one with smallpox in East Baton Rouge. For the week ending November 12, there was a brisk rise in the number of cases of syphilis, 282 being reported by the Bureau of Epidemiology. There followed 62 cases of measles, 26 of pneumonia, 24 of cancer, 23 of scarlet fever, 21 of diphtheria, 17 of whooping cough, and 14 of malaria. Another case of smallpox was listed this week, originating in Red River Parish this time.

HEALTH OF NEW ORLEANS

The Department of Commerce, Bureau of the Census, reports that for the week ending October 8. there were 160 deaths in the City of New Orleans, divided 104 white and 56 negro. Twenty of these deaths were in children under one year of age, with the racial distribution approximately the same. For the next week, which closed October 15, there were 20 less deaths than in the preceding week, 140 of our citizens expiring, of whom 79 were white and 61 negro. There were 19 deaths in children under one year of age of which the majority were negroes. When the week of October 22 came to a close, there had been listed 153 deaths in the city, of whom 90 were white and 63 negro. The infant deaths were 18 in number, divided equally between the two races. For the week ending October 29, there was one less deaths than in the preceding week, six more in the white and seven less in the negro race. Infant deaths were 20 in number, divided 14 white and 6 negro.

JOHN RAYMOND HUME
(1884-1938

The medical profession and medical school of Tulane has suffered a real loss in the passing of this distinguished Professor of Otolaryngology, a man who was recognized throughout the South as being one of the outstanding specialists in his field.

Dr. Hume graduated from the University of Indiana in 1907 and in a few years migrated to New Orleans where he has spent the greater part of his active medical career. He has been a teacher in the Graduate School of Tulane, rising in steps from the position of Clinical Assistant to Assistant Profesor, ultimately to become head of the Department of Otolaryngology. His many friends and colleagues, as well as numerous patients, will miss their contacts with this bright, and cheerful medical man.

WOMAN'S AUXILIARY

Louisiana State Medical Society

President—Mrs. Frederick G. Ellis, Shreveport.

President-elect—Mrs. S. M. Blackshear, New Orleans.

First Vice-President—Mrs. C. A. Martin, Welsh.

Second Vice-President—Mrs. A. G. McHenry, Monroe.

Third Vice-President—Mrs. D. C. McBride, Alexandria.

Fourth Vice-President—Mrs. A. F. Hebert, New Orleans.

Treasurer—Mrs. O. C. Rigby, Shreveport.

Recording Secretary—Mrs. D. T. Milam, Monroe.

Parliamentarian—Mrs. A. A. Herold, Shreveport.

Corresponding Secretary—Mrs. C. B. Erickson, Shreveport.

Historian—Mrs. W. P. Gardiner, New Orleans.

AN EDITORIAL

The following editorial is reprinted from the Journal of the Medical Society of New Jersey, August 1938, and the National News Letter of the Woman's Auxiliary. It seems to be as appropriate for Louisiana as for New Jersey.

"During the past year the Woman's Auxiliary has demonstrated its usefulness. It has discovered the latent talent among its members, and has established itself as an essential division of The Medical Society of New Jersey.

"1. The auxiliaries in some of the counties, notably Middlesex, have demonstrated their essential usefulness as liason agents in arranging for addresses to be delivered before lay groups by local physicians assigned as speakers by the county societies. This is a project for which the auxiliaries are especially well fitted.

"2. The auxiliaries are asking how they may promote research in local medical history. It is planned that this service shall be developed, so that a readable history of each county society may be compiled, to be published at the end of the year as a State Society project.

"3. The exhibit of Arts and Medical History at the last annual meeting was the best that has yet been arranged. The collection of historical documents and relics during the coming year will provide abundant material for a still better exhibit at the 1939 annual meeting, when proper facilities will be provided for its display.

"4. Plans are under development for a system of reporting the meetings of the county auxiliaries in a form which will appeal to physicians as well as members of the auxiliaries.

"The Journal offers its facilities to develop the essential objectives of the Auxiliary so that its helpfulness to the medical societies will be recognized, and its help eagerly sought."

CALCASIEU PARISH

The Calcasieu Auxiliary is meeting at lunch time downtown this year, instead of in the various homes in the afternoon. The program for the November meeting will consist of moving pictures taken in Alaska by Dr. and Mrs. G. E. Barham.

We are entering a Yes and No Contest on the radio along with seven other women's clubs in Lake Charles. There are several cash prizes. The programs are to be each Thursday night and will extend over a period of several months.

We are taking a very special interest in the Doctors' Library which has recently been started.

Mrs. L. L. Di Giglia,
Press and Publicity Chairman.

ORLEANS PARISH

The first meeting of the Woman's Auxiliary to the Orleans Parish Medical Society was honored in having Dr. Shirley Lyons, President of The Orleans Medical Society, as guest speaker. Dr. Lyons stressed the need for education on the vital question of the day to the medical profession, i. e., socialized medicine. He asked that we form a group to attend lectures on this subject so that we may talk intelligently about it and be able to defend our position and rights should the occasion arise.

Mrs. Waldemar R. Metz has been appointed chairman of this newly formed committee, and a series of lectures open to our membership is scheduled to begin on November 22.

At our second monthly meeting the program was given over to the Safety Committee of which Mrs. Edgar Burns is chairman. There was a movie "Safety in Numbers," also a speech, "Community Safety," given by Mr. Sol Weiss of the New Orleans Safety League with which our committee functions. As a part of this city-wide safety program our committee will place posters on the safety drive in all New Orleans schools.

Mrs. S. M. Blackshear,
Press and Publicity Chairman.

OUACHITA PARISH

A luncheon hour, which included, in addition to the serving of delicious viands, an interlude of conversation and an interesting program, was enjoyed by members of the Auxiliary to the Ouachita Parish Medical Society at the Lotus Club on Wednesday. The oval table in the dining room was aglow with beautiful chrysanthemums in all the autumn shades with tapers burning in their midst. The hostesses, presiding graciously during the luncheon hour, were Mrs. Leonard Shlenker, Mrs. H. Rogers, Mrs. J. H. Pankey and Mrs. Paul Herron.

Mrs. Clifford Johnson, the president, introduced the speakers, Mrs. Joseph P. Brown, who reviewed an article on Madame Curie written by her daughter Eve Curie, and Mrs. Pracher, who real an interesting article from the medical magazine, Hygeia.

A book was donated to the Monroe Library in memory of Mrs. Jessie Sadler.

Mrs. R. W. O'Donnell,
Press and Publicity Chairman.

CADDO PARISH

The Shreveport Auxiliary met in the home of Mrs. J. W. Norfleet in November. Since the first days of its organization the Shreveport group has each year had a program on peace. The speaker was Colonel Hollingsworth Barrett who brought a message profound in its analysis of the peace problem. Dr. J. M. Bodenheimer gave a resume of his work on the history of the Shreveport Medical Society. Mrs. Peachy Gilmer discussed medical current events.

Plans for the Christmas Seal Sale were announced by Mrs. J. R. Anderson.

Mrs. C. B. Erickson, Chairman of the Pines Preventorium Committee, outlined work for the year for her group and told of a Thanksgiving party to be given the children at the Preventorium.

TRI-STATE MEETING
TEXAS—LOUISIANA—ARKANSAS

At the Tri-State Medical Society Meeting in Texarkana, in October, the Woman's Auxiliary to the Bowie and Miller county medical societies entertained with a delightful luncheon at Hotel Grim, complimentary to Mrs. J. B. Crawford, of Little Rock, State President of the Arkansas Medical Auxiliary, and Mrs. F. F. Kirby of Waco, State President of the Texas Medical Auxiliary, and Mrs. F. G. Ellis of Shreveport, State President of the Louisiana Medical Auxiliary. The luncheon table was beautifully decorated for the occasion. After the invocation by Mrs. L. H. Lanier, Mrs. Roy Baskett, president of the local society, presided and introduced the visitors from Texas, Arkansas and Louisiana. Mrs. Reavis Pickett, program leader, conducted a clever contest in which the prizes were won by Mrs. Ruel Robbins and Mrs. C. R. Gowen (Shreveport).

Mrs. F. G. Ellis gave greetings from the Louisiana Auxiliary and Mrs. J. B. Crawford, of Little Rock, gave an interesting talk on "Why We Are Interested in Auxiliaries." Mrs. F. F. Kirby gave a brief talk on "How Doctors' Wives Can Help Promote Health Education."

Mrs. H. E. Murry, wife of the President of the Tri-State Medical Society, entertained with a delightful coffee Thursday morning at her home, 1700 Beech street, in honor of the women visitors who accompanied their husbands to the convention.

Among the honored guests were the three state presidents of the medical auxiliaries of Louisiana, Arkansas and Texas. The house was beautifully decorated with roses in the living room, daisies in the music room, and yellow chrysanthemums in the dining room. Mrs. R. H. T. Mann and Mrs. S. A. Collom presided at the table.

Respectfully submitted,
Mrs. Robert T. Lucas,
Press and Publicity Chairman.

BOOK REVIEWS

The Troubled Mind: By C. S. Bluemel, M. D., F. A. C. P., M. R. C. S., (Eng.). Baltimore, The Williams and Wilkins Company, 1938. Pp. 520. Price $3.50.

This work represents a sincere effort to acquaint the reader with the various forms of personality disorders which the medical practitioner is likely to encounter. The subject matter is well arranged and divided into eight parts, namely: (1) Fixed Ideas and Reactions; 2) Psychoneurosis—Its Manifestations; (3) Psychoneurosis—Its Nature and Causes; (4) Traumatic Hysteria; (5) Clinical Types of Inhibition; (6) Sundry Disorders (including eneuresis, migraine, epilepsy, stammering, alcoholism, and drug addiction); (7) Mental Illnesses (including the major psychoses) and finally, (8) a Closing Comment.

The book appears to suffer for the most part from too much case material. Each chapter is filled with abstracted case histories, their number being far in excess of that required to illustrate the various points which the author has in view. The reviewer feels that fewer case histories and more explanation of the processes involved in the production of the various symptoms which the troubled mind exhibits would greatly improve the book. The author is inclined to separate psychiatry too far from general medicine. For example in one paragraph in discussing the human personality he states: "The physician studies his patient piecemeal when he examines his heart, lungs, and abdomen. He considers the functions of related parts when he investigates the patient's digestion, circulation and metabolism. Seldom does he regard the patient as a whole, as an individual who is something more than an assemblage of organs. This study has fallen rather to the lot of the psychologist and psychiatrist." The reviewer strongly disagrees with the above description of the modern physician. Every practitioner of medicine, psychiatrist or otherwise, considers his patient as a functioning whole. The modern physician does not treat diseased hearts, lungs, or brains, but diseased patients with dynamic personalities, ever striving for various forms of adjustment, with various physical factors always playing a role in this process. Current medical teaching is ever striving to convince the student that he must look upon his patient as a totally organized and totally integrated whole, to be studied always as such, and at no time to be studied piecemeal.

The author's treatment of the major psychoses is much more excellently handled than are the minor disorders. His description of the nature and origin of the seemingly bizarre behavior of the schizophrenic is splendidly done, and every student of medicine will gain a more thorough understanding of this phase by reading this chapter. To the reviewer, Dr. Bluemel's description of "The Public Lunatic," cannot be surpassed. He brings forcibly to our eyes the evils which society often suffers from the hand of the psychopath outside of the state hospital. The elated evangelist, the healers, prophets, the pathologically aggressive political "bosses," all are shown in their true light by a psychiatrist who has an excellent insight into both the psychopathology of mentally diseased individuals and the psychopathology which besets our political, economic, and religious life.

Too much case material makes the book rather cumbersome. Aside from this it constitutes enjoyable reading and can especially be recommended to those interested in the subject as a conservative treatise of the various mental ills which currently beset us.

John W. Bick, M. D.

Injection Treatment of Varicose Veins and Hemorrhoids: By H. O. McPheeters, and James Kerr. Philadelphia, 1938. Pp. 315. Price $4.50.

In this volume, there is first a brief review of the anatomy, embryology and physiology of varicosities. The discussion of the pathologic physiology is excellent and quite unique.

The value of the various tests, commonly applied in varicose veins, is estimated and their clinical application explained on a physiologic basis. The multiple tourniquet test, as described by Ochsner and Mahorner, for determining selective regions of effective ligation has unfortunately been omitted.

The injection treatment of hemorrhoids, as described in this text, is well worth reading. A brief survey of the anatomic, physiologic, and etiologic facts is well appreciated. One cannot but agree with the author who states, "The injection method is valuable but not every case of internal hemorrhoid can be cured in this manner, and this fact should be recognized by any physician who expects to use it intelligently." He estimates that twenty-five per cent of internal hemorrhoids can be treated by injection alone; twenty-five percent are surgical, and fifty per cent should be treated by injection and surgery.

The indications and contraindications of injection treatment are well described, and the limited value of injection therapy is correctly estimated.

L. S. Charbonnet, Jr., M. D.

A Short Story of Cancer of the Breast and Cancer of the Uterus: By Marion Ellsworth Anderson., M. D. Clinton, Iowa, Author, 1938. Pp. 63. (No price given).

M. E. Anderson's 63 page booklet briefly mentions the two theoretical causes of cancer, that is embryonal cell rest and intensive pressure. He enumerates the various treatments, stressing the importance of early diagnois and early surgery, and emphasizing that x-ray and radium therapy should be entrusted to the hands of experts only.

The booklet contains several plates of gross pathologic specimens of cancer of the breast and uterus, borrowed by special permission of the respective authors and publishers.

Adolph Jacobs, M. D.

Tuberculosis Among Children and Young Adults: By JJ. Arthur Myers, Ph. D., M. D., F. A. C. P. Springfield, Charles C. Thomas, 1938. Pp. 401. Price $4.50.

The study of the diagnosis and treatment of tuberculosis has shown such tremendous advances in recent years that the second edition of a book after a period of eight years, especially from the pen of one of our foremost phthisiologists, means virtually a new book. Such, in fact, is the present volume. The author has rewritten many chapters and added new material, much of which is the final word on the subject. He stresses especially the great importance of the early diagnosis in the modern concept. The close and serious relationship between the first and second infections are re-emphasized and reiterated as in all of Myers' publications. Chapter I, entitled "Recent Progress in Tuberculosis and Its Practical Application in Diagnosis, Treatment and Prevention," is an excellent summary of the subject and, in itself, well worth the presence of a second edition. Dr. Myers' style is lucid, direct and simple. He presents his thesis in a fashion designed to hold the reader's interest. One may learn much from this serious and sincere leader by reading his book. It cannot be too highly recommended. It is authoritative, modern and correct.

I. L. Robbins, M. D.

Alcohol: One Man's Meat: By Edward A. Strecker, A. M., M. D., Sc. D., and Francis T. Chambers, Jr. New York, Macmillan Company, 1938. Pp. 230. Price $2.50.

This magnificent and outstanding book contains a wealth of material and is the work of an eminent

American psychiatrist and his associate therapist. Their practical familiarity with the subject is evidenced in their cleverness in weighing and evaluating the social psychic and physical factors which constitute the syndrome of alcoholism.

The authors believe alcoholism is the result of attempted escapes from situations which demand more emotional maturity and control than the addict can bring to bear in dealing adequately with the responsibilities, burdens and decisions of life. They say "the abnormal drinker is the person who cannot face reality without alcohol and whose adequate adjustment to reality is impossible as long as he uses alcohol."

In the text it is said that some alcoholics can be cured; many not. Also appears the statement that an abnormal drinker is cured as long as he never again takes anything to drink. One is told that the doctor must believe in his patient and the patient must be willing to help himself. It is shown that the treatment is time consuming and necessarily expensive.

The book, which has been attractively produced by the Macmillan Company, closes with this paragraph: "We feel that the most satisfactory treatment of alcoholism consists of an intensive psychological-re-educational approach, reinforced by a sensible correction of physical damage, and particular attention to a carefully considered nutritional program."

C. P. May, M. D.

Applied Anatomy: Functional and Topographical: By Robert H. Miller, M. D. Philadelphia, Lea and Febiger, 1938. Pp. 484. Price $6.50.

This book is a commendable attempt to present, for the regions and organs of the human body, some fundamental anatomic information amplified by instructive and interesting facts which the author has gleaned from physiology and comparative anatomy. In each case practical implications are noted for surgery and less often for medicine, without involving the subject matter in what is ordinarily a part of surgical anatomy texts.

Following a consideration of the skin and its appendages and a somewhat discrepant chapter on muscles, the author deals in orthodox manner with the body regions and their component structures. The conventional remissness of a consideration of the brain as well as the lack of embryologic data is regrettable, but does not depreciate the value of the book.

To each chapter is appended a list of references to the extensive source material authenticating the frequent quotations in the body of the chapter.

The illustrations, gathered from various sources, were selected with what appears to be expediency rather than aptness.

The book is recommended to students and doctors who prefer their anatomical data garnished with extraneous but interesting information, apparently designed to make these data more agreeable.

Charles Midlo, M.D.

Aids to Embryology: By Richard H. Hunter, M. D., M. Ch., Ph. D. Baltimore, William Wood & Company, 1938. Pp. xiii+178; figs. 44. Price $1.25.

First published in 1928, this book has demonstrated its popularity by passing through one reprinting and two editions within the last six years. It is based upon lectures of the author before students preparing for the second professional examination in medicine at Queen's University, Belfast. The volume, as is true of the whole "Students' Aid Series" in which it appears, is designed as a compend to facilitate review of the subject. The descriptive style is simple and direct, the material well chosen.

Harold Cummins, Ph. D.

Industrial Surgery: By Willis W. Lasher, M. D., F. A. C. S. New York, Paul B. Hoeber, Inc., 1938. Pp. 423. Price $6.00.

The work covers most of the problems of the industrial surgeon, and is extremely readable. Many case histories are quoted in order to emphasize the author's opinion, and the principles of treatment recommended are sound.

In the preface, the following significant statement is found:

> "Let us, then, consider the differences between private practice and industrial work. In private practice, two parties are concerned, the patient and his physician (occasionally relatives and friends enter into the picture). In industrial work, however, the employer, his broker, his insurance carrier, the patient's attorney, his union representative, the labor commission, the judge and the jury, are all vitally interested. Matters concerning the cause of the condition, the exact diagnosis, the treatment, prognosis and the end-results, all have to be explained in terms which are easily understandable to those having little or no medical knowledge. Vague theories are not acceptable; one must adhere to the underlying pathology, employ recognized clinical and pathologic tests and render a frank and impartial opinion. To assume that industrial surgeons study and treat their patients in a casual or superficial manner is entirely erroneous. Basic anatomic and physiologic considerations necessarily enter into the formulation of opinions and the giving of expert testimony."

No one book has yet been written which covers the entire field of industrial surgery, for in it are included not only surgical but medical and medico-legal problems as well, and the best methods of treatment change with the advancement of science. In many ways this surgery is more exacting than private practice: records must be abundant and accurate, the prognosis must be given within a few days after the accident in order that a monetary residue may be set aside, malingering must be detected and the physician must be prepared to back up his judgment on the witness stand. No knowledge comes amiss, and the reviewer believes that this book will add substantially to the library of any physician interested in this department of medicine.

Edward A. Ficklen. M. D

The Practice of Urology: By Leon Herman, B. S., M. D. Philadelphia, W. B. Saunders Co., 1938. Pp. 923. Price $10.00.

The author most properly states in the introductory sentence of the preface, "a practical treatise on diseases of the urogenital system." As intended it is adapted for the general practitioner and beginner in urology more so than for the surgeon.

The manner in which the author covers the differential diagnosis is of inestimable value to one using a text in his daily diagnostic work. The text is replete with illustrative drawings and photographs.

Considerably more space is given to gonorrhea and genito-urinary calculi than is usually found in the general textbook on urology. More detail in treatment, both medical and surgical technic, would have added greatly to the value of the text.

Monroe Wolf, M. D.

Biography of the Unborn: By Margaret Shea Gilbert. Baltimore, The Williams and Wilkins Company, 1938. Pp. x+132; figs. 36. Price $1.75

"Biography of the Unborn" is a thousand dollar prize winner in a contest sponsored by the publishers for the "best book on a scientific subject for general reading." It is significant, since the book is designed for the general reader, that the judges of the award included only non-medical men—a professor of education, a librarian and three editors. That the work has high merit might be anticipated: It has withstood the ordinary severities which attend such selections, and the appeal of its content to the reader unfamiliar with the subject is shown in the judgments of the non-medical committee on award. The book actually meets this expectation. Any reader who has sufficient intelligence and curiosity to be interested in human development may be assured that here is the essential story of that development, told in an interesting way and in terms which he can understand. The author is to be commended, not alone for making available a book of this character, but for her success in reducing a complex subject to such compact and simple form.

The arrangement of the material is well planned. Introduced by a chapter which is devoted to the sex cells and their union in the process of fertilization, successive chapters deal with the main developmental events occurring during each of the months of gestation, followed by a chapter on the principles of parturition and a preview of the important structural changes of early infancy. The concluding chapter deals with the factors underlying the production of twins, variations and malformations. There is a good glossary.

Harold Cummins, Ph. D.

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GAS BACILLUS INFECTION
WITH SPECIAL REFERENCE TO THE THERAPEUTIC VALUE OF THE X-RAY*

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Contrary to the opinion of many authors, gas bacillus infection is not infrequently seen in civil practice. At a state institution as Charity Hospital the surgeons observe many such cases, some possibly are unavoidable, but the majority the result of carelessness and improper management.

Our primary purpose in making this report is to stress the importance of the proper management of patients with wounds, which are potentially infected with anerobic organisms. Secondly, we wish to confirm the work of Kelly,[40, 41, 42] Faust[22, 23] and others, regarding the therapeutic value of the x-ray in gas bacillus infection.

HISTORY

Although Maisonneuve,[49] in 1853, is usually given credit for the first authentic description of gas bacillus infection, many authors prior to his time have alluded to the condition. Hippocratic writings[28] suggest the recognition of this "strange malady," as early as 300 B. C. Celsus is believed to have known of the occurrence of gas infection in pregnancy. In his monograph on gangrene (De gangreno et sphacelo, 1593) Fabry of Hilden[28] was the first to recommend amputation above the diseased part. De la Peyronnie is given credit for a fairly accurate description, while Quesnay in 1745 wrote on "Gangrene of Putrid Dissolution of the Humeral Mass." In the latter part of the eighteenth century, de la Motte and Kirkland mentioned cases. In 1822 Ollivier[28] produced experimentally hospital gangrene by auto-infection.

History reveals that during the various wars knowledge of the subject increased rapidly. Thus Larrey[28] during the Napoleonic war, Dupuytren[28] in the next period, Salleron and Pirogoff during the Crimean War made important contributions. It was, however, during the World War that the most valuable work was accomplished. The records of the medical corps of the various countries as well as personal reports make this period unequivocally the one during which the greatest advance in this disease occurred.

With Pasteur's discovery and isolation of the vibrion septique and the subsequent investigations of Koch, Novy, Welch and Nutall, the causative organisms were demonstrated.

ETIOLOGY

In gas bacillus infection the causative organisms, Cl. welchii group, and the predisposing factor (trauma) are absolutely interdependent. A large variety of organisms of the clostridium group has been isolated, but in the literature three species are mentioned most frequently:

1. Clostridium welchii (B. perfringens: B. aerogenes capsulatus) Welch and Nutall, 1892; 80 to 90 per cent of cases.
2. Clostridium oedematis maligni (vi-

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brion septique), Pasteur, 1881; 10 to 25 per cent of cases.

3. Clostridium oedematiens, Weinberg and Sequin; 5 to 15 per cent of cases.

Eliot and Easton[20] state that in this country any other organisms than Cl. welchii are rarely identified. In our experience these findings were similar. Vincent[67] believes that the "maximum activity of the microbes of gaseous gangrene results from their combined action." Grantham[35] contends they live in symbioses together as well as with the pyogens and Cl. tetani.

They are widely distributed in nature. Rural sections are reported to be more contaminated than urban. This is largely due to the dissemination of fecal material by cattle, that harbor these organisms in the alimentary tract. However, they are not only "soil" organisms but can be cultivated from our immediate environment. Gage[26] and Maes[48] emphasize the frequency with which gas bacilli can be cultivated from wool, with a special reference to clothing. Gage[26] has cultured the organisms from wadding of shotgun shell in every attempt.

The higher incidence of gas infection in the negro is reported by Veal[66], Eliason and Erb[19] and Boland[3]. The latter explains this occurrence by the poorer hygienic state of that race.

Destruction of muscle with liberation of carbohydrate in deep closed wounds forms ideal growth conditions for these anerobes. In most reports, compound fractures carry the greater incidence of gas bacillus infection. Next in order of frequency are deep penetrating wounds of muscle, especially those inflicted by shotgun. According to the Surgeon-General's office, only 1.08 per cent of injuries to soft parts ever developed the infection, while more than 5 per cent of the compound fractures were complicated.

The occurrence of this infection in "clean" postoperative cases has been a source of interest and worry to every surgeon. Warfield[70] directed attention to the frequency of this complication in amputations, especially in diabetics and suggests a prophylactic dose of antitoxin in such cases preoperatively.

Robert, Johnson and Brukner[19] were able to cultivate Cl. welchii from the skin of 21.7 per cent of unprepared abdomens; 8.3 per cent from knife blades used in making the incisions and 9.2 per cent from the peritoneum when opened for non-inflammatory conditions. The occurrence of such infections following appendectomy and cholecystectomy has been reported by Johnson[39], Orr[57], Ochsner[58], Gordon[32], Gamble[27], Howe[38], and others.

PATHOGENESIS

Gas bacilli injected into living and untraumatized muscle do not grow, but when trauma occurs, and when the wound is open some of the clostridium group are usually present. Of 216 wounds examined by Taylor,[64] 130 (61 per cent) showed the presence of gas producing organisms. Of the latter, only 45 (35 per cent) exhibited clinical symptoms. Bohlman's statistics are identical, only one third of the wounds contaminated ever developed gas bacillus infection.

Nevertheless, Cl. welchii and allied groups, when present in an ideal medium, waste little time in producing pathology. The affected muscle is at first dull and opaque, brick red in color and resembles cooked meat. It does not contract, nor does it bleed when incised. Soon it softens and becomes diffluent and changes in color to green, brown or black. The exudate is blood tinged. Gas is formed and forces itself up and down the muscle bundles, opening up new fields for infection. At first, the gas is within the muscle sheaths, but soon it ruptures into other fascial planes, and courses along the vessels and nerves. The production of the gas is explained by Thorek[65] as the result of fermentation by these organisms of dextrose and isomaltose which is converted from the glycogen of the living muscle. They are putrefactive organisms as well and the gas according to Vincent[67] is the result of their combined action. The most virulent organism alone may produce little gas. The odor is very offensive, supposedly quite characteristic, and described as "mousy" or "decayed meat," and is probably due to the action of saprophytes.

This gas may develop a high pressure. In testing the force the gas may produce, Taylor's[64] experiment revealed that within two hours the pressure begins to rise and in six hours it may reach a pressure of over twenty-three pounds. Manson[54] states he has obtained a pressure of thirty pounds in twenty-four hours' incubation. Thus there is further destruction of muscle through stoppage of the capillary circulation of gas emboli and pressure. Later larger non-anastomotic arterioles are involved. Finally, the main arterial trunk may be occluded, especially if the wound is closed or enclosed in a rigid cast.

The group of anerobes, termed clostridium, produce powerful exotoxins, which vary according to the virulence of the organisms. The same organisms may vary in this respect under different circumstances.

Glenny, et al,[31] discovered multiple toxins produced by some of the organisms of the Cl. welchii group. Clinically, we recognized two or possibly three distinct toxins: One necrotic, causing local destruction; another hemolytic causing a severe anemia; and finally a pure systemic toxin. The latter two may easily be the result of a single toxin.

Vibrion septique and Cl. oedematiens produce the more powerful toxins, especially the former, which according to Ghormley[29] has been known to produce local edema with no gas and a fatal toxemia.

Therefore, the following clinico-pathologic classification is submitted dependent upon the relative degree of the various toxins present, the extent of local pathology, and the relation of the lesion to the severity of the systemic toxemia.

1. Primarily toxic (fulminating): The patient is extremely toxic and in shock, far out of proportion to the local lesion. Death will occur in a few hours if effective therapy is not instituted immediately.
2. Primarily gangrenous (mechanical): In a few cases the entire extremity may be gangrenous and yet the patient suffers a relatively mild toxemia. Usually the existing pathology is pressure occlusion of the main trunks (venous and arterial) with little absorption.
3. The usual or common type: Occurring in neglected wounds in 12 to 24 hours. In these cases the degree of toxicity is in proportion to the local lesion.
4. Localized or delayed: A slowly developing lesion with a mild systemic reaction. May occur even weeks later. Odor, gas or culture warrants the diagnosis.

DIAGNOSIS

The establishment of a diagnosis of this disease is relatively simple and the recognition of the early cases is not difficult, if the condition is kept in mind. All potentially infected wounds should be scrupulously examined if an early diagnosis is to be made.

Most authors agree that pain of severe intensity and out of porportion to the lesion is probably the earliest if not the most constant finding. The pulse is very rapid in relation to the temperature. The tachycardia is evidently dependent upon the toxemia, the bacterial toxin having a specific direct effect upon the heart muscle. The anemia, caused by a hemolytic toxin, is characteristically present according to Eliot and Easton[20]. In addition, there is also general malaise, marked prostration, and restlessness, as well as apprehension.

The presence of gas infection can be detected before the onset of marked systemic reaction except in the extremely toxic cases. Dolor, rubor and tumor are usually the first signs complicating the wound. Swelling, with exquisite tenderness and diffuse redness about the wound, is characteristically early. Slight pressure about the edge of the wound will express a sanguineous or watery discharge, with or without a few bubbles of gas. Direct smears will reveal the classical gram positive, non-motile, encapsulated bacilli in considerable numbers together with a few staphylococci and streptococci. This is absolutely diagnostic. To wait for positive cultural findings is useless and far too dangerous.

Ghormley[29] is of the same opinion and states that smears are more valuable than cultures.

Biologic tests and "stormy fermentation" (Robinson and Stovall[60]) of milk, give rapid information, but it should be recalled that the proof of the activity of the organisms in vivo by their activity in vitro occurs at the expense of the host.

In the past such diagnostic criteria may have seemed inconclusive for the institution of therapy, especially when amputation was resorted to immediately, but in this day of less radical methods such findings are absolutely adequate. If a diagnosis is not confirmed by culture, no harm has been done. The wound was rightly treated as an infected wound with the addition of other more specific remedies.

Palpatory and auscultatory crepitation and the easily recognized odor are relatively late findings. The fulminating case is most spectacular and these findings, although classical, are sometimes misleading. The patient is in a state of profound shock, with a rapid, thready pulse, a delirious state and the temperature varying from 103° to 105°. Prompt therapy must be instituted if the life of the patient is to be saved. Following traumatic injuries the diagnosis is not puzzling, but gas bacillus infection as a postoperative complication is frequently confusing. In the latter condition the analytical power of the surgeon is really tested. He is at a loss and believes that the symptoms are dependent upon occult bleeding. Gamble[27] emphasizes the erroneous diagnoses of the so-called "liver deaths" or hepatic insufficiency following cholecystectomy, that eventually prove to be gas bacillus infection of the wound.

The primary gangrenous type due to mechanical occlusion of the main vessels is late and is clinically obvious. An entire extremity is mortified and gaseous with relatively mild systemic toxemia.

The localized or delayed case is usually recognized by x-ray, incision and evacuation and by culture. There is little systemic reaction.

X-RAY DIAGNOSIS

Early in the World War the importance of the use of the x-ray in diagnosis was emphasized. The value of the x-ray as one of the earliest positive findings is stressed by Rhinehart[61] and Lingeman[46] who have seen positive gas findings in infected wounds as early as two and one half to four hours. As small an amount of gas as 1 c. c. has been demonstrated by the x-ray experimentally.

Gas shadows in the roentgenograms are recognized as round or oval areas of lessened density, or as dark streaks either under the skin or extending between the muscle bundles or under fascial planes. The x-ray technic for demonstration of gas should be of a high milliamperage and of relatively low voltage to give good contrast in the soft tissue. The usual bone detail technic often burns out the gas shadows.

The presence of gas shadows in an x-ray film alone without clinical evidence of infection is of no value in the diagnosis of this disease. Air may, and often does, enter wounds. In compound fractures air is frequently sucked into the wound on reduction of the fragments. Air may be driven into gunshot or penetrating wounds. Again in amputation, air is frequently present under the skin flaps soon after operation. Wounds penetrating or in proximity to a joint may show gas shadows, because of the sucking action on motion of the joint. Hydrogen peroxide used in cleansing penetrating wounds almost always produces gas shadows in the x-ray films taken immediately thereafter. These various accidental air shadows will tend to disappear in six to twelve hours on successive examinations. In contradistinction, the classical x-ray shadows of gas infection will spread and increase in amount.

MORTALITY

In the literature the larger groups of collected cases are interesting but give no information of the advanced improvement in the management of the disease. In Millar's[55] authentic report of 607 cases in civil life, (during the interval from the post-Lister period up to 1930) the mortality in these cases of 49.7 per cent is compared to that of the American Expeditionary Forces in France of 48.5 per cent. Of 5,449 cases collected, Manson[54] found a death rate ranging from 15 to 60 per cent with an average of 38.5 per cent. The British Expeditionary Force reports a mortality of 20 to 50 per cent.

In an attempt to determine the improvement in mortality rate, three periods were compared: (1) pre-war; (2) post-war (antitoxin); (3) recent. Prior to the World War most of the reported mortalities are in the vicinity of 50 per cent. Welch reported 59 per cent in 1900, while Cramp reported 48 per cent in 1912. In 1914, Chalier gives a death rate of 67.4 per cent. However, some of these were war cases.

With a better knowledge of the disease, improved surgical methods, and the universal use of antitoxic serum during the next interval (post-war period) there is some reduction in the death rate. Boland[3] reported 67 cases with a mortality of 32.4 per cent, which was reduced to 15.4 per cent with the use of adequate dosages of serum. Stone and Holsinger[62] give almost identical findings. In 52 patients, 17 died, a mortality of 32.4 per cent; while in 29 patients treated with serum, a death rate of 15.3 per cent was reported. Ghormley[30] compares a 57.5 per cent with 13.4 per cent following the use of serum. Similarly, Bates[2] reduced the mortality from 56 per cent to 12 per cent. Veal[66] reported 27.7 per cent mortality for cases at Charity Hospital. He finds a great reduction in mortality with the use of serum.

In the "recent period" with the valuable work of Kelly et al[42] on the therapeutic use of the x-ray a still greater reduction in death rate was found. Not only was the mortality lowered, but many limbs saved which in the past would have been sacrificed. In his group of collected cases the mortality ranged from 5 to 10 per cent dependent upon the type. In our series, we treated twenty patients with two deaths, a mortality of 10 per cent.

A critic may think that those interested in this work are too enthusiastic over a mortality based on so few cases. But when one witnesses the spectacular effect of therapeutic x-ray in gas infection he will realize that its value is not over estimated and that the method is well worthy of further study.

TREATMENT

The primary aim should be to prevent the development of this disease. In no other phase in surgery is prophylaxis more important than in traumatherapy.

Wounds of any severity are invariably associated with some degree of shock, the treatment of which is paramount. Operative surgery of any type is absolutely contraindicated under such circumstances. The control of hemorrhage and the protection of the wound with sterile dressings is essential until the general condition permits thorough local treatment.

The immediate care of wounds is the chief factor in reducing the incidence of gas bacillus infection. Antitoxic sera and x-ray are valuable adjuncts in the prophylaxis, but they will never replace correct surgical measures.

With proper knowledge of the pathogenesis, the surgery should include such measures that will render the wound relatively free of organisms and devitalized muscle tissue upon which they feed.

PROPHYLAXIS

The proper management of wounds should be governed by the following rules:

1. Do not delay: Treat the wound as soon as possible. Late wounds are treated in a similar manner except for closure and after care.
2. Use general anesthesia: Avoid the use of ether because of the additional heart damage.
3. Preparation of field: (a) Carefully shave and wash the part, using green soap and water; (b) irrigate wound with large quantities of normal sterile saline; (c) antiseptics around, but not in the wound.
4. Complete debridement: (a) Strict operating room technic; (b) remove all foreign material, irrigate at intervals; (c) excise all devitalized muscle tissue; (d) careful hemostasis with silk No. 1.

5. Repair of wound: (a) Close tight if absolutely certain of no potential infection; (b) leave wound wide open and irrigate, if in doubt.

6. Fracture with open wounds (compound fractures): (a) Wound handled as above; (b) remove all small bone fragments without a blood supply, and clean contaminated edges of larger fragments with rongeur; (c) reduce or interlock fragment if possible with slight manipulation; (d) transfix fragment, using suitable splints rather than plaster for fixation in order to make frequent careful inspection of the wound; (e) leave wound wide open.

7. Administration of prophylactic antitoxin: Polyvalent gas antitoxin and tetanus antitoxin.

8. Preventive x-ray: Especially in older and suspicious wounds.

The rules are mostly self-explanatory, but slight emphasis on a few points is essential. The use of plaster casts and tight dressings should be avoided. In compound fracture the double pin fixation as described by Caldwell[6] should be used. Whether closed or opened wide the wound should be meticulously examined at frequent intervals.

The value of prophylactic antitoxin is undisputed when given in large quantity. Veal[66], Ghormley[29] and others showed its beneficial effect. The preventive use of x-ray is a recent development and has not been reported. We have treated eight cases, with no occurrence of the disease. But, of course, such a small series is of no significance.

Formol-toxoids in the prophylaxis of gas gangrene are advocated by Penfold and Tolhurst[59], who state that men in the army, women in child-bearing period, and laborers should be vaccinated.

The main pitfalls occur when one is not able to do such extensive procedures and "had to do the best under the circumstances." With the improvement of medical standards even in small communities we should hear that statement no longer in civil practice. Whenever one is not sure he has removed all potentialities, never close the wound, but open wider and irrigate with antiseptics.

Once gas infection has developed, we are dealing with a specific disease, the therapeutic indications of which are prompt and proper surgical measures. The treatment is based upon a working knowledge of the pathogenesis and symptomatology. We must "halt the pathogenesis and combat the symptomatology".

Many surgeons fail to realize that we are dealing with a patient as well as a wound. This individual is usually extremely toxic and in a state of shock of such severity that frequently radical methods are incompatible with life.

In most cases, "less radical" methods in conjunction with the aid of serum and x-ray are far superior. We prefer the term less radical to the word "conservatism," which should play no part in the treatment of this disease. There cannot be set rules; each case must be individualized. A keynote to success is that the surgery must be more extensive than the pathology. Decompression to prevent the progress of the destructive gas coupled with complete excision of the involved tissue is imperative. Muscle should be excised until there is active bleeding and contractility which indicate that the infected area has been passed. The wound is left wide open and irrigated with hydrogen peroxide. Intensive oxygenation of the wound has helped the local process as well as reduced the toxemia in the experiences of MacKechnie[47] and Drogoz[17].

The consensus of opinion in the literature regarding the use of therapeutic antitoxin is fairly uniform. It is a very valuable adjunct in the treatment of this condition. The larger the dosage, the better are the results obtained.

There are many monovalent and bivalent antitoxic sera. The one in use at Charity Hospital is bivalent for vibrion septique and Cl. welchii. Vincent[67] has justly emphasized the necessity of polyvalent sera, as the pathology is due to the combined action of both the saprophytic and pathogenic anerobes of the Cl. welchii group. No doubt some of the poor results obtained are due to inefficient antitoxin.

The use of sulfanilamide in these cases has been reported with success by Bohlman[4] and others. Spray[63] experimenting in vitro with the drug, questions its efficiency against Cl. welchii. Dawson[13] obtained excellent results with auto filtrates. We have had no experience with either remedy.

X-RAY THERAPY

The beneficial effect of the x-ray in inflammatory conditions[15] is generally accepted to be of value and is frequently employed in the treatment of furuncles,[10] carbuncles,[10] erysipelas,[15] pneumonia,[56, 18] trachoma,[50] parotitis,[37] and early mastoiditis.[33, 34] The use of x-ray therapy in the treatment of gas bacillus infections, however, is relatively recent and has been tried in too few cases, and by too few surgeons for the method to be of definitely established value. It is our hope that the addition of these cases to those already reported will furnish more evidence in its favor and stimulate others to try x-rays as an aid in the prevention and treatment of gas gangrene.

In 1928 Kelly[40] introduced x-ray as an aid in the treatment of gas gangrene. His preliminary report of six successfully treated cases was in 1933. Faust[22, 23] and Hanchett[36] followed with successful results.

In 1937, Kelly and Dowell[42] presented their results of x-ray therapy in 138 cases of gas gangrene, collected from physicians in this country in answer to a specific questionnaire. They reported a total mortality of 10.8 per cent including arteriosclerotic and diabetic cases which carried a death rate of 55 per cent. In typical gas gangrene, the mortality was 7.7 per cent. Their results also showed that the mortality in amputated extremity cases was twice that of the non-amputated extremity group. In this series, 18 patients received no serum, and all but one recovered.

Since it has been shown that the x-ray has relatively little or no effect on Cl. welchii in vitro, the question is always aroused as to the explanation of the beneficial results obtained in vivo by x-ray therapy. Although no definite scientific proof has been offered as yet, the clinical result speaks for itself. There are, however, two or possibly three plausible theories. Faust[22] suggests after the experimental study of the effect of x-rays on tissue (Stanford University) "that the x-rays on nutrient fluids is deadly to protozoa by producing small quantities of hydrogen peroxide."

Another theory is the liberation of a proteolytic factor which may be resistant to the toxin of the gas bacillus, and a third, is the increase of local resistance due to the sudden liberation of enzymes from leukocytes killed in mass by x-irradiation.

TECHNIC

The x-ray factors used at Charity Hospital in treating gas infection are as follows:

Voltage	Extremity cases, 90-120 kv. Trunk cases, 200 kv.
Milliamperes	Extremity cases, 5 ma. Trunk cases, 20 ma.
Filtration	Extremity cases, 3 mm. aluminum Trunk cases, 0.5 mm. copper 1 aluminum
Skin Target Distance	30-50 cm.
Frequency of Treatments	Early cases, every 12 hours. Late cases, every 8 hours
Dosage	From 50-100 r. per area per treatment

The preventive technic in potential gas bacillus infections is similar to that used for early cases. While all the cases in this series were treated on stationary therapy units, similar results may be obtained on extremity cases with portable x-ray units. This is of distinct advantage in treating patients too ill to be moved.

REPORT OF TWENTY CASES

Nature of Injury		No. of Cases	Percentage
Compound Fractures		8	40
Auto-train	5		
Gunshot	3		
Penetrating Wounds		6	30
Gunshot	3		
Stab wounds	2		
Nail puncture (diabetic)	1		
Postoperative		5	
Amputation (Traumatic, 2) (Arteriosclerotic gangrene, 1)	3		
Osteotomy	1		
Abdominal	1		
Snake bite (incision and drainage)		1	5
Surgical Treatment			
Procedure:			
Less radical decompression and debridement	6	6	30
Decompression alone	7	7	35

Radical amputation			
Immediate	3	3	15
Delayed	3	3	15

N. B. One patient received no surgical treatment because of moribund state. Died six hours later.

MORTALITY IN RELATION TO INJURY

Type of Injury	No. of Cases	No. of Deaths	Mortality Rate Per Cent
Compound fractures	8	1	12
Penetrating wounds	6	0	0
Postoperative	5	1	25
Snake bite	1	0	0

In considering the mortality with reference to the type of injuries we find that our results are in agreement with other reports. The greatest mortality is in postoperative cases, 20 per cent. The one death in this group is not a fair test of the efficiency of the therapy. The patient was 65 years of age and his leg had been amputated for arteriosclerotic gangrene. He developed the infection postoperatively, but we did not see the patient until seven days after amputation. At this time, he was moribund and died six hours later. There was one x-ray treatment given.

In compound fractures our mortality is slightly higher than others reported. The fatality of this group, however, was a neglected case, admitted to the hospital seven days after his accident. The wound had been tightly sutured and was still closed when the patient was admitted. He was delirious, extremely toxic and in profound shock. Decompression alone was done. He received a large therapeutic dose of antitoxin and three x-ray treatments, but died thirty hours after admission.

SUMMARY AND CONCLUSIONS

We have reviewed the recent literature on gas bacillus infection and emphasized some of the more important phases of the disease.

Contrary to the opinion of many authors, gas bacillus infection is not infrequently seen in civil practice.

In this country, Cl. welchii is the most common offending organism. Compound fractures are complicated with gas infection five times as frequently as injuries to soft parts, according to the literature.

An accurate knowledge of the pathogenesis and symptomatology in this disease is absolutely essential for the early diagnosis and treatment.

An early diagnosis can be made in all cases if we only suspect and examine for the presence of the infection. Pain is an early constant finding. Smears are diagnostic and more valuable than cultures, because of the time involved in the latter. X-ray gives early positive findings.

A study of the mortality in the disease reveals that since the World War, with better surgical methods, the universal use of antitoxin, and recently, the therapeutic value of the x-ray, there has been a gradual decrease in the death rate.

Proper prophylactic management of all wounds, especially compound fractures, will lower the incidence of gas bacillus infection. Antitoxin and x-ray are both valuable preventive measures.

The best results are obtained with "less radical" surgical methods, adequate dosage of antitoxin and the therapeutic x-ray.

Twenty cases of gas bacillus infection are analyzed with a mortality of 10 per cent. In compound fractures, the death rate was 12 per cent, while in postoperative cases it was 20 per cent. This is in agreement with other reports.

We wish to emphasize that gas bacillus infection can be prevented, and with the recent methods offered, not only will many lives be saved, but many limbs as well.

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DISCUSSION

Dr. Mims Gage (New Orleans): I have been interested for some time in the subject presented by Drs. Charbonnet and Cooper. I sincerely hope that their observations as well as others will bear fruit and that we will have an additional safeguard in the treatment and cure of gas bacillus infections by the judicious use of the x-ray.

The Bacillus welchii is widely distributed in nature being found in the excreta of practically all animals (specially the herbivora), in the soil, and in all woolen goods. I have investigated woolen materials, such as gunshot wads and wool clothing, bacteriologically and have found the presence of B. welchii in 100 per cent. Experimentally, I have produced B. welchii in dogs and rabbits by traumatizing the muscles of the thigh and then introducing pieces of gunshot wadding and bits of wool clothing into the wound. This is of use clinically because all wounds of a traumatic nature involving muscles, which contain either gunshot wadding or bits of wool clothing, will certainly develop gas bacillus infection.

The Bacillus welchii is a sugar feeder; therefore it is necessary to have tissues traumatized in which there is a large amount of sugar present. We find such tissues containing a high content of sugar in the muscle, liver, blood clot, and to a less degree in the brain. As the organism is almost entirely an anerobe, it is necessary that a traumatized wound contains either devitalized muscle or blood cloth or both, and must be of an anerobic character. When this combination is present in traumatized wounds, the incidence of gas bacillus infection will be rather high. The wounds therefore that contribute to the development of gas bacillus infection are traumatized wounds with lacerated and devitalized muscles which occur in all compound fractures, especially those of the long bone. From these observations one can readily state that all lacerated wounds in which there is hematoma formation or devitalization of muscle are potential cases of gas bacillus infection. There is no type of wound that creates these favorable conditions more than compound fractures. Several years ago, Dr. Muir Bradburn cultured all cases of compound fractures that came into his service and found gas bacillus contamination present in 50 per cent of them.

Knowledge of these factors should convince the surgeon that he has in his power the methods that will prevent the development of gas bacillus infection. This prevention or prophylaxis consists of thorough debridement of all lacerated, contused wounds, gunshot wounds, and compound fractures. If the wound can be thoroughly cleaned mechanically, then primary suture can be done. If the cleaning is not thorough, it is advisable to leave the wound open widely in order that there will be no anerobic areas. An anerobiosis of the wound can also be overcome by the use of chemicals that liberate large quantities of oxygen. We have found that the instillation of peroxide of hydrogen into the wound every two hours is a very useful method in producing oxygenation of the wound. To wait until there is gas formation in the tissues, which can be demonstrated clinically or roentgenographically, is one of the greatest of surgical errors.

If the patient enters the hospital with well-developed gas bacillus infection, the surgeon is confronted with a very serious problem. In this type of case, the treatment consists of adequate exposure and removal of all devitalized tissue in the area of infection. The wound should be left open to produce aerobiosis, and chemical oxygenation should also be part of the treatment. Large doses of polyvalent antigangrenous serum should be given and repeated every twelve to twenty-four hours. Because of the rather high mortality in this type of case, x-ray has been used by a large number of surgeons and radiologists with most encouraging results. It is not easy to explain the beneficial result following x-ray treatment in this type of case. It probably is dependent upon the conversion of the vegetative forms of the gas bacillus into the inactive spores. This change of environment is probably dependent upon chemical changes that take place in the tissue and the exudate as well as the organism produced by the x-ray.

The authors have presented a series of cases tonight in which x-ray seems to have been of great benefit as the infection has subsided and the patient recovered. In some of the cases shown tonight, gas was demonstrated in the thigh after amputation of the leg and this was considered to be gas bacillus infection. It is a well-known fact that gas generated by the gas bacillus organism at times reaches the astounding pressure of twenty pounds to the square inch in the tissue. It is therefore readily conceivable how the gas may extend in the tissue a considerable distance from the infection. There have been cases of gas bacillus infection of the muscles of the calf of the leg which was limited to this area. Nevertheless, gas was demonstrated roentgenographically in the tissues of the thigh as well as the abdominal wall, although no B. welchii were present either in the thigh or the abdominal wall. Therefore, one must be very careful in drawing conclusions as to the presence of gas bacillus infection in the tissue made entirely on the presence of gas at these sites.

I would suggest to the authors that they use the x-ray prophylactic measure in the treatment of all severely traumatized injuries where there has been extensive muscle injury with and without blood clot formation.

Dr. Howard R. Mahorner (New Orleans): This presentation is very convincing and I think that it adds confirmatory evidence helpful in the management of these cases.

One thing I would like to call attention to is that it is so important to diagnose gas bacillus infection early and I quite agree that we cannot depend on the x-ray for diagnosis. The important thing about making that diagnosis is to be watching for the appearance of the infection. It can be detected by the fingers as early as by any other method. When there is potential gas bacillus infection developing, the intern ought to examine the patient with sterile gloves around the wound and distal to the wound every six to eight hours. Whenever gas is present in the x-ray it is detectable by palpation.

There is another thing that I would like to call attention to and that is that remarkable results have been reported by the use of sulfanilamide in gas bacillus infection. Not that x-ray should not be used, for this presentation convinces one that it helps, but it is a very serious infection and everything we have to combat it should be used against it.

Dr. G. F. Fasting (New Orleans): I have been called upon to do quite a bit of the bacteriologic work reported in this paper and am responsible for the report of the presence or absence of Cl. welchii. There have been times when I would report absence and the doctor was convinced that there must have been gas. Other times, of course, we have found it.

It has just been stated, that you cannot rely upon the x-ray alone for diagnosis, but should include palpation. We have had two cases not so long ago, in which the laboratory reported the presence of Cl. welchii in routine pus examination. One was in a case of osteomyelitis with the wound open. The presence of Cl. welchii was not suspected. The wound being open and possible presence of granulation tissue may have prevented spread of infection and saved the patient. The point remains that gas gangrene bacilli were present, for which the laboratory takes credit in finding.

Another question to be considered is conditions simulating gas gangrene. I believe this occurs because in our attempt to isolate Cl. welchii, we have failed to show presence of anerobes. From the mixture of organisms present we were not able to conclude whether the amount of gas produced by them was extensive enough to penetrate high in the tissues. We are, however, sure of one thing, when a wound or leg has been amputated and small amounts of gas manifest themselves at the surface and we are requested to make a culture for gas gangrene bacilli, the laboratory representative will confirm the presence of bubbles but fail to isolate an anerobe.

This particular phase of bacteriology has not been adequately worked out. It is the wisest thing to be on the cautious side and assume gas gangrene bacilli present until proved absent.

Dr. L. S. Charbonnet, Jr. (In conclusion): We are very grateful to Dr. Gage and others who discussed our paper. Dr. Gage's suggestion, that the effect of the x-ray may be on the spores is logical and explains the beneficial prophylactic effect. We agree with Dr. Fasting that bacteriologic methods in regard to these anerobes are still in progress and not satisfactory as yet.

Finally, it must be emphasized that this infection can be prevented.

TUMORS OF THE ADRENAL GLAND IN EARLY CHILDHOOD

WITH A REPORT OF TWO CASES*

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INTRODUCTION

It has been my good fortune, in seventeen years of practice as a physician, to have had as patients two very interesting and rare cases of tumors of the adrenal gland with involvement of the kidney. The children, males, three years of age and twenty months of age, respectively, came to my office and were examined, operated upon, and left the hospital, all within a period of three weeks. One year has elapsed since operation, and, in each instance, these children are, apparently, in good health today.

The adrenal, or suprarenal gland—a flattened body situated in the retroperitoneal tissue at the upper end of each kidney, consisting of an internal medulla and an external cortex enclosed in a connective tissue sheath or capsule—was first described by Eustachius in 1564 and the adrenal medulla by Bartholin in 1666.

Tumors of the adrenal gland, clinically and pathologically, are an unusual finding. For clinical purposes, Tileston and Wolbach[22] divide these tumors, in children, into four classes: (1) those with metastases to the skull (Hutchinson's type); (2) those of simultaneous sarcoma of the liver and adrenal; (3) the type associated with precocious maturity; and (4) the tumors not falling under any of the preceding headings.

Player and Lisser[17] classify tumors of the adrenal into two main groups: (1) those of the medulla, and (2) those of the cells of the cortex. I shall discuss the subject under these two headings.

TUMORS OF THE MEDULLA

Tumors of the medullary portion of the adrenal gland are an uncommon discovery. The recorded cases are generally in children under six years of age and, in many instances, in children under three years of age. Among 22,000 admissions to the surgical wards of the Children's Hospital in Boston over a period of twenty-one years, Mixter[15] reports ten cases of neuroblastoma of the adrenal.

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Until 1910 these growths were most frequently referred to as round cell sarcomas, lymphosarcomas, or gliomas. Wright[24] established their pathologic nature, and Pepper[16] and Hutchinson[10] described the clinical picture.

The "Pepper type" is characterized by early metastases in the liver (abdominal enlargement being an outstanding feature), and the early age at which the tumor appears. It may occur congenitally and is generally discovered before the third year. Pepper's series of cases were reported as "congenital sarcomas," with the site of the primary tumor in the right adrenal. Tumors located on right and left sides, respectively, have been recorded by Scott, Oliver and Oliver,[19] in a review of the literature. Kato and Wachter,[11] in a later summary to 1937, list twenty-six cases in the right and seventeen in the left adrenal. The classification frequently found today is "the Pepper type of neuroblastoma or sympathicoblastoma." McNamara[13] reports the tendency of this type to localization in the abdomen, but invading the blood vessels and lymphatics, although not forming distant metastases.

Hutchinson's tumor, so-called, frequently arises from the left adrenal medulla, but may be found in either suprarenal gland. Scott, Oliver and Oliver[19] give 8.5 years as the average age when tumors are discovered when primary in the left, and 3.5 years when primary in the right suprarenal gland. Appearance of metastases in the bones of the skull, and especially those about the orbit, is characteristic of this type, McNamara[13] describing the clinical picture as similar to that of an injury to the eye.

The attempt to distinguish between the Pepper and Hutchinson syndromes on the basis of location of the primary growth has, according to Askin and Geschickter,[1] proved untenable. They refer to the statistics compiled by Scott, et al[19] as showing that either side may be the site of the primary tumor in both syndromes, the most significant difference being one of age, . . . "average 12.7 months for the Pepper type compared with 6.9 years for the Hutchinson's syndrome. . . ". Kato and Wachter,[11] reclassifying the cases recorded by Scott, et al, and adding fifty-three cases reported between 1932 and 1937, list the average age of patient as follows: Pepper type, 1.7 years; Hutchinson type, 3.9 years; mixed type, 5.6 years; uncertain, 3.1 years.

Doub[5] says that late studies have shown the overlapping of the two types, and that they are indistinguishable pathologically and roentgenologically. Askin and Geschickter[1] observed the overlapping of the two syndromes in their series of cases. They state: "In cases in which the bones are involved, there may also be abdominal enlargement due to metastases to the liver, and enlargement of the regional lymph nodes may occur in either type. While anemia is a more pronounced feature with the Hutchinson's syndrome, severe secondary anemia may also occur in the advanced stages of the Pepper type." Kato and Wachter[11] believe that actually either type may produce both the skull and liver metastases in varying proportions.

Dunn,[5] and Lehman[12] have painstakingly reviewed the literature, analyzing case reports. Scott, Oliver and Oliver,[19] in their survey, bring the total number of reported cases to one hundred and sixty two. Kato and Wachter,[11] in reporting a case of adrenal sympathicoblastoma, with special reference to the biopsy of sternal marrow and of metastatic nodule in the skull, have studied the literature and are of the belief that some of the cases reported by Scott, et al, were ganglioneuroma rather than neuroblastoma and a few were lacking in data for positive identification. They add fifty-three cases of sympathicoblastoma in children, published since 1932, and their table No. 1 gives a summary of these cases. In a second table they summarize one hundred and seventy nine cases of adrenal neuroblastoma in children, reported from 1880 to 1937.

Neuroblastoma, sympathicoblastoma, sympathoblastoma, sympathogonioma, neurocytoma are all terms used at this time. Meyer[14] believes that classification and identification of medullary adrenal tumors has been confusing as a result of the undifferentiated grouping of the cells.

From a physical diagnostic standpoint, Askin and Geschickter[1] believe it is important to observe that the retroperitoneal mass in the region of the kidney may be very large without producing renal symptoms and that there may be hepatic enlargement to a marked degree without jaundice or ascites, although there are exceptions to this rule. Their tables II and III, giving symptoms and findings in seventeen cases of neuroblastoma, are interesting. Microscopically, they believe that the recognition of neuroblastoma is difficult at times, it being impossible definitely to rule out, by the examination of a single microscopic section, lymphosarcoma and embryoma of the kidney of the Wilms' type.

In two cases of sympathetic neuroblastoma in children, Doub[5] reports that pain, referred to the spine and legs, was the initial symptom.

In the differential diagnosis, Mixter[15] states that neuroblastoma of the adrenals occurs with less than one-fourth the frequency of embryoma and that "occasionally a case is encountered in which there is rapid local growth of the adrenal neoplasm with no gross evidence of metastasis and in which the silent clinical course and the position of the mass simulate the true kidney tumor." Kato and Wachter[11] discuss the hematology of adrenal neuroblastoma and its differential diagnosis from chloroleukemia, acute leukemia, and lymphosarcoma. In a discussion following Doub's[5] paper, Sosman[20] speaks on differential diagnosis from a roentgenologic standpoint.

McNamara, Henneger, and Lytle,[13] and others, report the prognosis as grave, as most cases are diagnosed in advanced stages. However, the occasional case that has been cured by early removal makes the condition not entirely hopeless. These authors belive x-ray therapy of no apparent value, an opinion concurred in by Askin and Geschickter,[1] and Doub.[5] Doub used radiotherapy in two cases in children and believes it to be of no avail if there is evidence of metastases.

In preoperative procedure, Cecil[3] stresses the importance of determining the existence of a functioning opposite suprarenal gland before resorting to surgery on the offending side.

SURVEY OF CASES IN RECENT LITERATURE

Among the cases of neuroblastoma in children reported in recent literature are the following: McNamara, Henneger and Lytle[13] report the case of a girl, three years and seven months of age, first seen four months before death because of swelling of the abdomen. There had been no subjective symptoms and no fever. *Clinical diagnosis*: sarcoma of liver. *Anatomic diagnosis*: "Neurocytoma of the right adrenal gland; invasion of the right kidney and the inferior vena cava." This girl was the niece of another patient who died from carcinoma of the ovary.

Meyer[14] writes of a boy, three years old, who on admission to out-patient department had pain with swelling on the left side of the face, with some fever. One month later he returned and a diagnosis of neurocytoma of adrenal gland with metastasis was made; patient died one month subsequently. *Autopsy*: Abdomen revealed large tumor in right renal area. The anatomic diagnosis was right adrenal cell tumor with metastases to the skull, vertebrae, long bones, mandible, brain, ribs, and lymph nodes, which microscopically and sectionally, from one of the metastatic growths, was termed a neuroblastoma.

Askin and Geschickter[1] record seventeen cases of neuroblastoma of the adrenal occurring in children, their oldest patient being 13 years. Thirteen of the number were infants and children to six years of age. Males predominated with a ratio of 11:5; sex in one case not given. Tumors were equally distributed between the right and left adrenal; two were bilateral. All of the cases were fatal.

Rhea and Mead[18] report a fatal case in a five year old female, of adrenal neuroblastoma of the Hutchinson type, with primary bilateral adrenal tumor.

Their second case was a white female, three years old, who died three months after exploratory laparotomy and eight months after onset of symptoms. The diagnosis made by biopsy was that of a right sided tumor in the region of the adrenal gland with findings pointing toward a Pepper type of neuroblastoma.

Doub[5] relates two cases of sympathetic neuroblastoma in children, the initial symptom being pain referred to the spine and legs. The first case, that of a boy two and a half years old, gave a history of a fall from a tricycle four weeks previous to admission. The patient died five months later. The case was diagnosed by postmortem examination as sympathetic neuroblastoma of the left adrenal with metastases to lymph nodes, liver, lungs, and lumbar vertebrae.

His second case, a girl of four and a half years, gave a history of "pain in epigastrium and over the upper part of the thighs." Three months previously roentgen ray therapy had been administered by another physician for abdominal mass. Doub used roentgen therapy but child died two months later. Postmortem diagnosis was "sympathetic neuroblastoma arising in the medulla of the adrenals, with metastases to the pancreas, adjacent lymph nodes, liver and bone marrow."

Kato and Wachter[11] record a case of adrenal sympathicoblastoma, a male two and a half years old, who gave a history of a bluish discoloration about the eyes which first appeared three weeks before date of visit to clinic, first about the left and later about the right eye. There was no known history of trauma. Child died almost two months later. Case is classified as adrenal sympathicoblastoma (neuroblastoma), Hutchinson type.

They add in a footnote a second and later case of adrenal sympathicoblastoma (Hutchinson type) in a white female two years and three months of age, who died two and a half months after admission, in spite of one transfusion and eight x-ray treatments. Original complaint was swelling of left jaw, which first appeared three weeks previous to admission.

TUMORS OF THE ADRENAL CORTEX

Tumors of the adrenal cortex have been classified by Ewing[7] into: (1) hyperplasia, nodular or diffuse; (2) adenoma, and (3) carcinoma, according to Strohl.[21]

Hyperplasia, nodular or diffuse: " . . . the nodular type is usually well encapsulated, and frequently many areas of hyperplasia can be found in one gland. The diffuse type has recently been more commonly associated with the picture of hirsutism (Walters, Wilder and Kepler)[23] . . . Nodular hyperplasia may be associated with nodules in the liver, and sexual overdevelopment may be seen in this type of condition."

Adenoma: Ewing[7] has stated that true adenoma can be differentiated from hyperplasia by its atypical and neoplastic structure. Adenoma of the adrenal gland generally occurs singly, although there may be multiple and bilateral growths. Strohl[21] says that "the tumor frequently projects from the capsule as a reddish or yellow structure, which is well circumscribed. Hemorrhage and central softening may occur. Some adenomas weigh as much as four ounces and still retain the characteristics of a benign adenoma. On occasions the adenoma is invaded by fibrous tissue, to the extent that "it becomes quite firm and, as a result, is called a 'fibro-adenoma'. There is a tendency toward hyperchromatism of the nuclei in the true adenoma."

Carcinoma: This is the type of tumor that often produces secondary sexual changes.

Adrenal cortical tumors with endocrine dysfunctions are rare. The endocrine changes caused by tumors of the adrenal cortex vary greatly according to the age and the sex of the patient. Player[17] states that in girls, if adrenal cortical tumor is congenital or present in early infancy, it causes pseudohermaphroditism and in young girls such tumors cause, as Lisser terms it, "pseudo-precocious puberty." Successfully operated cases, with disappearance of the syndrome, have been reported by Collett,[4] Fordyce and Evans,[8] and Harris and Plieves.[9] According to Player, "In true precocious puberty the clinical picture is due to ovarian hypersecretion in early life."

A case of virilism and hypertension associated with right adrenal tumor (carcinoma) of the cortical type, in a female two years old, is reported by van der Bogert.[2] The child died. Tumor mass was examined after operation; there was no postmortem.

Of true precocious puberty in boys due to adrenal cortical tumor with endocrine changes there are, up to the end of 1932, eight authentic instances recorded and confirmed either at operation or autopsy, according to Player and Lisser.[17] They add to this group their own case, a boy four years and eleven months of age, with astounding sexual precocity, from whom a left adrenal cortical tumor was successfully removed. The patient was alive and well twenty months after this operation.

As many fatalities occur during the first few hours after operation, Cecil[3] has suggested an operative technic designed to prevent shock.

The histories of my two cases of tumors of the adrenal are as follows:

CASE REPORTS

Case 1. On March 22, 1937, a boy, three years of age, was seen who complained of pain in the region of the liver. Upon questioning the mother, I found that he had previously been treated for enlargement of the liver with no results, and that for the past three weeks he was getting worse.

Examination revealed an undernourished, anemic-looking male child, weighing 24 pounds. Head, neck, and lungs were clinically normal. In the upper quadrant of the abdomen there was a hard, more or less regular, semi-painless mass which seemed to arise from the right kidney fossa, extending forward underneath the liver, down to about the level of the umbilicus. This mass, however, could not be differentiated and more or less separated from the liver and the lower margin seemed rounded. There were no abnormal findings, other than this. Blood pressure was 90/60. No cystoscopic or x-ray examinations were made; urine was negative in every respect. Blood examination did not reveal anything abnormal.

Believing that I had somehting unusual, I immediately called my consulting surgeon, Dr. E. S. Peterman. We conferred, and decided on a tentative diagnosis of tumor of the adrenal, and advised that it should be removed.

He was prepared for operation on March 23.

Operation: Abdominal incision was made over the tumor mass. Abdomen opened and a retroperitoneal tumor mass involving the entire right kidney, about the size of an ordinary grapefruit, was found. This was removed.

On March 29 the little fellow was sent home from the hospital and had an uneventful recovery.

Gross Examination: The globular tumor is approximately 3½ inches in diameter, and weighs 22 ounces. It is located within the capsule of the kidney, with only a small portion of the kidney remaining free. The portion of the kidney involved in the tumor is intimately incorporated, being gradually lost in the mass.

The incised surface is reddish yellow, interspersed with gray, translucent areas. A few hemorrhagic and necrotic areas are found in the portion more intimately connected with the kidney. The general appearance of the cut surface is variegated.

Microscopic Examination: The sections are composed of smooth muscle in which scattered mitoses are visible. This is supported by a delicate reticulum with a rather sparse vascular supply. No remains of the right kidney structure could be found, nor is there any visible attempt at glandular cellular arrangement.

The sections give the appearance of an embryonal myosarcoma.

Follow-up: Upon a recent check-up I found the boy weighing 40 pounds, he looks fine and there is no evidence at all of any abnormal conditions.

Case 2: On March 29, 1937, a male, 20 months old, was brought to my office. He complained of itching of the navel. Upon observation, I found a fairly well nourished, "pot-bellied" male child, weighing 29 pounds. Clinically, he was normal except for the large stomach, which his mother said he had always had, and that he had been examined on numerous occasions and given something for enlarged liver.

The red bug, the cause of the itching, was removed from the navel. On examination of the abdomen, I found a large tumor mass in the upper quadrant, extending from the kidney fossa to and forward under the liver, down to the umbilicus. Hardly believing that I could have another tumor of the adrenal and kidney, I had various examinations and tests made. The urine was reported negative. The blood picture, by Dr. S. R. Henry, was as follows: Erythrocytes, 6,250,000; leukocytes, 5,250; hemoglobin and coeff. 14.5 gm.—13—77 per cent; volume of packed red cells, 42 c.c.; color index, 0.8; mean corpuscular volume, 67 cu. microns; mean corpuscular hemoglobin, 31 per cent. The neutrophiles were: myelocytes, none; juveniles, none; stab forms, 3 per cent; segmented, 26 per cent; a total of 29 per cent.

Shift to left (regenerative shift) none. Lymphocytes, 67 per cent; large mononuclears, 1 per cent; eosinophils, 2 per cent; basophils, 1 per cent; granulocytes, 29 per cent; total leukocytes, 100 per cent. Malaria, negative. Hypochromia, negative. Poikilocytosis, negative.

No abnormal alteration in blood picture. Kahn test, negative.

After completing the above examination, I called a surgeon and we decided to operate.

Operation: The same surgical procedure as described in the first case was carried out and the little fellow made an uneventful recovery.

Gross Examination: The specimen includes the whole kidney and a tumor mass roughly oblong and nodular, measuring 4½ x 3 inches, and weighing 16 ounces. The color varies from the dark brown of the kidney tissue to a yellowish translucent appearance of the nodular masses. Hemorrhagic areas of various sizes are numerous, with the presence of cysts of different sizes.

The flattened kidney substance can be dissected over an area of about three-fourths of its surface, the balance being gradually incorporated and lost into the tumor.

The cut surface is very friable and necrotic in some areas, and containing areas of hemorrhage.

Microscopic Examination: The microscopic picture consists of adrenal cell (cortex) arranged in strands and in groups supported by a delicate stroma. The cytoplasm is granular and contains lipoid globules, giving the foamy appearance of an adrenal adenoma.

Follow-up: Since his recovery, I have seen him a few times, and I find the boy much finer and better in every respect. However, on a few occasions he has run fever and has had several stomach upsets which, I think, were probably due to pin worms, and lack of proper vitamins. He now weighs 36½ pounds and has had no signs of metastasis whatever. Due to the fact that the diagnosis was made, and he was operated upon early, he is well today.

SUMMARY

Two cases of adrenal tumor are reported occurring in small children.

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DISCUSSION

Dr. Charles J. Bloom (New Orleans): Dr. Morgan has presented a most interesting and rather unusual paper. He brought to your attention the fact that tumors of the adrenal glands are rather uncommon, and in a series of 22,000 children admitted to the Boston Children's Hospital, the incidence of renal tumors was 41, and of true adrenal tumors, 10. He also recapitulated the number of adrenal tumors which have been reported in the literature up to this present time, namely, there have been less than 215 cases reported in the literature. It is indeed most interesting that Dr. Morgan adds to this list of 215 cases, two additional cases of tumor of the adrenal gland.

Differentiation between the common types of tumors of the adrenals has been more or less classified into two groups: one, the Hutchinson type, and the other the Pepper. In the Hutchinson type, usually the left adrenal has been involved and when metastasis has occurred, it usually occurs to the skull. Whereas, in the Pepper type, usually the right adrenal has been involved, and when metastasis occurs, it usually involves the liver.

By presenting this case to this section, Dr. Morgan brings to our attention another possibility to consider when one examines the abdomen of a child and finds a tumefaction. To the findings of the tumor must be added the more or less common symptoms associated with tumors of the adrenal, namely, elevation of temperature, vomiting, and abdominal pain, to which must be added, pallor, leukocytosis, reduction in the red cell count, and an enlarged liver.

Dr. H. O. Barker (Alexandria): We had a child who died recently in our hospital. The case was not diagnosed, but at autopsy it was found there was metastasis to the abdomen from a tumor of the suprarenal gland.

Dr. H. E. Menage (New Orleans): I am interested in the subject from a dermatologic standpoint and would like to know in what proportion of cases hyperpigmentation of the skin and of the mucous membranes was found.

Dr. Albert R. Morgan (In conclusion): Dr. Menage, I am unable to answer that question, because no pigmentation at all was found in these two cases.

The only thing I can suggest in closing this paper would be that routine examination sometimes reveals something unusual.

THE ELLIOTT TREATMENT OF PELVIC INFLAMMATORY DISEASES OF AMBULATORY WOMEN

ANALYSIS OF 73 CASES*

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The Elliott treatment regulator has been used in my office practice for the treatment of properly selected cases of pelvic inflammatory diseases of women for the past three and a half years with gratifying results. Seventy-three patients to date have been treated, and comprise this series upon which this report is based.

One of the foremost conditions to be fulfilled before the application of the Elliott treatment in pelvic inflammatory diseases of women in the office, is the proper selection of patients for treatment. It will be remembered that all cases must be ambulatory, and since many of the cases are acute, the acute stage must necessarily be treated in the home, in bed, along the following general principles:

1. Absolute rest in bed, both physical and physiologic; Fowler's position, as quickly as called to treat the case. Patient must not be allowed to sit up in bed, and all "wants" of patient fulfilled by a nurse or attendant.

2. Application of ice bag to lower abdomen during first two to four days followed by "heat tent" to pelvis, one hour on, at two to three hour intervals, during day, according to tolerance of patient. If patient complains of ice bag, one may use heat from beginning of treatment with gratifying results.

3. Vaginal irrigation may be given slowly once or twice daily, after the third or fourth day, using 1-5000 potassium permanganate solution at 120° for ten to fifteen minutes.

4. Instillation of 5 c.c. of 5 per cent mercurochrome solution in vagina after each irrigation.

5. The bowels should not be moved during first three or four days. The lower bowel may be emptied by daily enemata. Mineral oil may be given on third or fourth day. Diarrhea and constipation are to be avoided.[1] There is no better drug than paregoric or morphine for quieting peristalsis, and this should be used to quiet hyperperistalsis as this excites the already inflamed areas, many times spreading the disease.

6. Pain is relieved, in addition to the above, by use of sedatives, codeine or morphia.

7. Distention can be avoided and overcome by use of proper diet, heat tent, Levin tube,[1] rectal tube, and pitressin[1] or prostigmine.

8. No solid food should be given during first two to three days, but plenty of fluids by mouth and hypodermoclysis, or venoclysis, of ten per cent glucose in normal saline, in no less than 3,000 c.c. quantities in twenty-four hours. After first two or three days, high carbohydrate, low residue, light diet is followed.

9. Foreign protein, in the form of lactigen, is used in 10 c.c. quantities, given intramuscularly every two to three days. This does indeed favor rapid resolution of the exudate, especially when the cause is due to the gonococci.

10. Tonics are given when necessary.

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11. Operative procedures are generally forbidden unless localised accumulations of exudate are inevitable and rupture is feared. It is now known that with the Elliott procedure many cases of pelvic cellulitis and pelvic abscess will undergo rapid resolution and resorption.[1]

12. The case must have become quiescent, the temperature normal for four to five days, and patient able to be brought to office in ambulance or automobile before treatment can be begun. This usually takes about fourteen days from beginning of treatment.

13. Vaginal and rectal examinations are made at intervals of five to six days to note progress and development of complications.

Before one is able to make proper selection of patients for treatment, all of the general indications and contraindications for the use of the Elliott treatment regulator must be known.

THE INDICATIONS

1. Acute salpingitis (with or without tubo-ovarian abscess; with or without pelvic peritonitis.)
2. Subacute salpingitis.
3. Chronic salpingitis.
4. Acute pelvic cellulitis, with or without "frozen" or "fixed" pelvis.
5. Subacute pelvic cellulitis.
6. Postpartal and postabortal parametritis.
7. Pelvic abscess.
8. Pelvic thrombophlebitis[1].
9. Acute gonorrheal vaginitis and endocervicitis.
10. Cystitis.[1]
11. Proctitis.
12. Dysmenorrhea.
13. Erosion of cervix.
14. Senile vaginitis.

THE CONTRAINDICATIONS

1. Menstruation—not absolute; but better to delay treatment, especially if profuse.
2. Uterine hemorrhage—profuse.
    a. Postabortal.
    b. Postpartal.
    c. Tumors.
3. Severe secondary anemia, with or without emaciation. Not absolute, but rather to indicate caution should be observed in that routine Elliott treatments are weakening in these types of cases and may even produce "fainting spells."
4. Acute salpingitis—early. Not absolute, but mentioned inasmuch as, in many cases, the pain produced is intolerable during first few days.
5. Plastic operations—cervix, bladder and perineum, with much scar formation. Not absolute, but low temperatures must be used to avoid serious resorption of scar tissue.

INSTRUCTIONS TO PATIENTS

Having made proper selection of case to be treated, the following written instructions are given to the patient to be executed at home prior to coming to office:

1. Void, as completely as possible.
2. Take vaginal douche, very warm, 1-5000 potassium permanganate solution.
3. Take enema of soap water to empty lower bowel.

When patient arrives at office, she may be allowed to rest for one-half hour during which time the following is observed:

1. Be sure bladder and rectum are empty.[3]
2. Examine vagina to see if it is dilatable and swab to remove excessive secretions.
3. Take mucosal temperature of mouth, bladder, vagina and rectum before, and immediately after treatment.
4. Check Elliott machine to make sure it is in proper order, that the temperature of water is not over 115° F. to start. Time is saved by heating the water to 110° in sterilizer, or over bunsen flame, before pouring it into the tank of the treatment regulator.

To obtain the greatest possible benefit from the treatments, the following points should be noted:

1. The temperature of water, as registered, is gradually elevated at the rate of ½° to 1° per minute until tolerance of patient, or not more than 125° or 130° F.
2. The duration of each treatment depends to some degree upon tolerance of

patient. Usually the first treatment is 15 minutes; second, 15-25 minutes; third, 25-30 minutes; fourth, 30-45 minutes, and no treatment is ever longer than one hour.

3. The vaginal applicator should be distended to tolerance of patient, but never to cause discomfort. Usually one to three pounds of pressure is sufficient. This is not often sufficient completely to flatten the vaginal folds, but burns will not occur with guarded temperature. More pressure is needed in large, relaxed, roomy vaginas.

4. Frequency of treatment is every second to third day. This depends upon the severity of disease, and distance and manner of transportation to the office. In chronic cases, treatments can be given every day. Too much physical disturbance is inadvisable, as a flare up of the disease may result.

5. Check all temperatures of patient immediately before treatment and just before treatment is discontinued.

6. Inspect vagina "cautiously" after removal of applicator bag. If there should be a burn, treat topically, insert tampon of vaselin or boroglycerine[4] and allow to remain in four to six hours. Continue next treatment as usual, but at a lower temperature.

7. Allow patient to rest at least one hour after treatment before returning home.

8. Sexual intercourse is to be avoided for three months after discharge of patient.

9. Always request some one of the family, or relative, to accompany patient to office.

EFFECTS OF TREATMENT[5]

Vaginal examination immediately after treatment, reveals a very warm vagina with an increase in secretions. The entire mucosa is red or hyperemic. After two or four treatments there is softening, shortening, and broadening of cervix. After two to four treatments, symptomatic improvement is noted, due to a diminished degree of pain and tenderness in pelvic organs. After four to six treatments, the mobility of uterus is greatly increased and the adnexae more easily palpable. Some cases, of course, require longer periods of time to show improvement.

PHYSIOLOGIC EFFECTS OF INCREASED HEAT[6]

1. Has destructive action upon bacteria, especially gonococcus.
2. Increases rate and volume of circulation and causes vasodilatation.
3. Increases phagocytosis.
4. Increases local tissue metabolism.
5. Increases lymph formation.[7]
6. An increase of 17 per cent in leukocytes.[1]
7. Erythrocyte sedimentation rate: I did not use this test in any of these cases, relying on clinical findings to determine progress, but according to Dickey,[7] the rate is definitely reduced to normal as clinical improvement is noted. More value is placed on this than on the white blood cell count, Boland[1]; when the sedimentation time remained stationary, it was a fairly good indication that the case would not respond to the Elliott treatments. In these cases in which the sedimentation time dropped and the white count became elevated, good results were obtained.

When these physiologic changes are produced in inflammation of the pelvis, the result is[2]:

1. A prompt subsidence of congestion and inflammation.
2. Resorption of exudate.
3. A definite destructive action on bacteria, especially the gonococcus.
4. An out-pouring of mucus and washing away of infective organisms from cervix and vagina.

BURNS ARE DUE TO:

1. Too high and too prolonged temperature.
2. Rugae of vagina not being spread properly by incompletely distended bag so that local temperature is not uniform. This can be avoided in cases that cannot tolerate much pressure by lowering the temperature.
3. Skin of vulva and perineum is less resistant to heat than vaginal mucosa,

therefore must be protected or burns will result from neck of bag.

The seventy-three patients in this series were diagnosed and analyzed as follows:

TABLE 1

Diagnosis	No. of cases	Average age	Average duration of disease	Average no. of treatments	Temp. of water		Pressure pounds		Duration of treatment in minutes		Results*			Major Surgical
					Min.	Max.	Min.	Max.	Min.	Max.	Good	Fair	No. Imp.	
Group 1. Acute and subacute—specific	12	22	18 days	12	110	130	1	3	10	60	10	2	0	0
Group 2. Subacute—non-specific	14	23	32 days	15	110	130	1	3	10	60	10	4	0	0
Group 3. Chronic salpingitis	17	26	1½ years	22	110	130	1	4	10	60	7	10	0	8
Group 4. Postabortal parametritis	8	25	16 days	8	110	130	1	3	10	60	7	1		0
Group 5. Postpartal parametritis	8	22	28 days	6	110	130	1	3	10	60	6	2		0
Group 6. Endocervicitis	7	28	1 year (?)	7	110	130	1	4	15	60		4	3	4
Group 7. Vaginitis—senile	3	54	1 year	10	110	124	1	2	5	30		2	1	0
Group 8. Postoperative inflammation	4	25	3 mos.	6	110	128	1	3	10	30	3	1		0

*There were no injuries in this series.

GROUP 1. ACUTE AND SUBACUTE SALPINGITIS

In this group there were twelve patients in whom vaginal and cervical smears showed gram negative intracellular diplococci. These were treated at home, according to the plan outlined in the beginning of this essay, for the acute stage of pelvic inflammatory disease. I have always found the use of 5 c.c. 5 per cent mercurochrome solution instilled in the vagina to be very beneficial. Negative smears were obtained in these cases after the fourth week of treatment or after eight to ten Elliott treatments had been given. Topical treatments were continued, however, for one to two weeks longer. Two of these patients developed Bartholin abscesses in the second week which healed promptly after incision and drainage. Cul de sac abscess did not develop in any case. Since I used the combination treatments, mercurochrome instillations and Elliott treatments, I am unable to state the value of heat produced toward actual destruction of the gonococci. However the following temperatures averaged from five cases, from Group 1, in specific locations, with varying Elliott machine temperatures, are cited:

TABLE 3

TEMPERATURES REPORTED BY HOLDEN AND GURNEE[8] WHEN ELLIOTT TEMPERATURE IS 130°

Urethral meatus	104.0°
Bladder	104.2°
Anterior rectal wall	106.0°
Posterior rectal wall	104.2°
Cervix	112.0°
Vagina	103.0°
Body temperature	0.4° rise

Holden[1, 8] states that by means of the Elliott apparatus, a consistently uniform temperature of 130° can be maintained for any length of time against a large area of distended vagina, cervix, adjacent parametrium and pelvic organs.

TABLE 2

Location	Before treatment	Elliott temp. 115°	Elliott temp. 120°	Elliott temp. 125°	Elliott temp. 130°*
Oral	99	98.8	99	98.6	98.2
Urethra	100.2	103.8	103	102.3	102.5
Bladder	100	102.1	102.8	101.5	101
Vagina**	100				
With Bag		109.9	112	113	115
Without Bag		101	104	103	106.3
Rectum	100	102.8	104.6	104	103
Folded bag—distended		114	119	123.5	128

*Elliott temperature of 132° plus was not tolerated.

**Vaginal temperatures taken immediately after removal of bag.

Holden and Gurnee[8] report that gonococci are killed in a few hours by a temperature of 106° F. F. J. Van Putte,[9, 10] Stockholm, has cultivated the gonococci for indefinite periods at 106.7° and has found most strains viable after exposure for six hours to 113°. This tends to discredit Holden and Gurnee's[8] report. Holden and Gurnee also state that the gonococci are destroyed, in a few minutes, after exposure to 122°. This is undoubtedly true, but analysis of Table 2 shows that when the Elliott machine temperature is 130° F., only an average temperature of 115° F. could be maintained in the vagina. These temperatures were taken between the bag and vaginal mucous membrane. I know a temperature of 130° F., as reported by Holden and Burnee,[1, 8] cannot be maintained in the vagina.

This is further supported by Herring's report[10] which demonstrated that a temperature of 122° in the vagina cannot be maintained by use of the Elliott machine. He states that a temperature of 100° in cervix and 114-121° on vaginal surfaces is all that could be maintained in his experience with the Elliott machine, using a galvanometer connected with a thermocouple to secure findings. I agree with Herring's report. The maximum vaginal surface temperature obtained in this series (table 2), when the Elliott machine temperature was 130° F., was 116.2° F. Temperatures higher than 131°, as registered on the Elliott machine, cannot, generally, be tolerated.

It is also reported by Holden and Gurnee[8] that there is a 0.4° rise in body temperature during treatment with the Elliott machine. Table 2 shows definitely a decrease in oral temperature, at the end of a treatment, variable between 0° and 0.8°. Only occasionally will there be a rise in oral temperature.

The average bladder temperatures are generally approximately one degree lower than urethral temperatures due to the fact that it is a cavity containing a variable amount of urine.

The temperatures of the vagina, with the bag, vary in direct ratio, with the Elliott temperatures, averaging ten degrees less. One to two degrees is due to the cooling effect of the tubes and bag, while approximately six to eight degrees is due to the cooling effect of the tissues and the vascular systems.

The temperatures of the vagina, taken immediately after removing the bag at the end of a treatment, averaged approximately 9° F. less than with the bag. Rectal temperatures vary according to the amount of intestinal content collecting during treatment.

All of which lends support to the statement that it is doubtful if tolerable temperatures obtained with the Elliott machine are sufficient to be lethal to all strains of the gonococci.

It will be noted that the results of Group 1, Table 1, were good in 10 cases and fair in two cases, with an average of twelve Elliott treatments. This number is four to six less than generally reported for such cases, but I frankly believe this is accounted for in the plan of treatment for the "acute stage." Resolution is therefore more rapid and more complete.

GROUP 2. SUBACUTE (NON-SPECIFIC)

Represents 14 patients, eight of whom gave a suggestive history of Neisserian infection, and six of undetermined origin. The results were about the same as in Group 1.

GROUP 3. CHRONIC SALPINGITIS

Seventeen cases are presented in this group. The results are not so striking as shown in Groups 1 and 2, but the reason is undoubtedly due to the fact that in Groups 1 and 2, the "disease" had to be dealt with, while in this (group 3) the "results" of disease were dealt with. Although laparotomies were performed upon eight of these patients, partial salpingectomy was done on three and bilateral salpingectomy upon five. Oophorectomy was performed on only one patient. I feel that the Elliott treatment did indeed limit the amount of surgery ordinarily performed upon such patients.

GROUP 4. POSTABORTAL PARAMETRITIS

This group consists of eight patients in whom there was a definite cellulitis, but no abscess formation in the tissues immediately adjacent to the isthmus-uteri. Seven of these became sympton free, and I believe the other would have had she not unfortunately stopped treatment so soon.

GROUP 5. POSTPARTAL PARAMETRITIS

This condition occurred in eight patients who had had normal deliveries. These cases were mild, yet there was tenderness in the parametrium, a mild cellulitis. Six responded well to the treatments while results in two cases were fair.

GROUP 6. ENDOCERVICITIS

There were seven cases of endocervicitis, three with erosion, one without, and three cases that had had trachelorraphies with subsequent mild parametritis, were treated.

Although the eroded areas did seem to improve, I have always obtained such good results with electroconization or electrocauterization in one treatment that when I saw they were responding so slowly, I treated all seven patients with one of the latter technics with good results.

In the three women who had had trachelorraphies, there seemed so much resorption of scar tissue, with Elliott temperature over 120°, that I discontinued this type of treatment.

GROUP 7. VAGINITIS—SENILE

Three patients, so far, have received Elliott treatments, plus theelol. Two responded well, and one only fair. This patient is, however, still under treatment. Due to the marked inflammation and narrowing of the vaginas and decreased circulation in these cases, the temperature of the water, pressure, and duration of treatments were considerably less than in the other groups.

GROUP 8. POSTOPERATIVE INFLAMMATION

I performed bilateral salpingectomies upon four patients with chronic inflammation and after they were up and about, they experienced a little tenderness in the parametrium. Three were symptomatically relieved while the other one was practically so.

CONCLUSIONS

1. Although this series of cases is very small, too small in fact, to draw conclusions from, it does exhibit differences from other reports in literature, most all of which have been carried out in hospitals.

2. A striking feature is that the patients in Groups 1 and 2 became symptom free with an uneventful convalescence and did not require major surgery. This would indicate that if more of these patients could be treated in the manner outlined, in the acute and subacute stages, very little major surgery would be necessary at a later date, when the cases would perhaps become chronic.

3. Another very important point is demonstrated when one considers the age incidence in this series and the former frequent necessity of performing bilateral salpingectomy, or bilateral salpingo-oophorectomy resulting in the unfortunate picture of "artificial premature menopause."

4. Refractory cases to conservative treatment are found largely in the chronic group; these are rendered more amenable to surgery, limits the extent of surgery, thereby effecting better prognosis.

5. Postabortal, postpartal, and postoperative parametritis responded well to this type of therapy.

6. When surgery is necessary, "conservatism" should always be foremost in the mind of the operator.

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THE SERUM VOLUME TEST FOR THE HEMORRHAGIC DIATHESIS IN JAUNDICE: FURTHER OBSERVATIONS*

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Since only a small proportion of jaundiced patients exhibit a hemorrhagic diathesis, the problem at first glance might seem of no great concern to the surgeon. But two considerations promptly disturb any possible complacency. The first is that carefully compiled statistics attribute from 40 to 50 per cent of the death rate in surgical jaundice to this single cause. The second is that until very recently it was impossible to identify the patients who were likely to bleed by any method other than the one pessimistically suggested by Ivy, of waiting to see which ones did bleed.

There is still much in the problem of the hemorrhagic diathesis in jaundice that calls for elucidation, but within the last two or three years there have been a few very hopeful developments. The cause of the bleeding has been at least partially demonstrated. A few tests have been developed for the accurate identification of the patients who present this diathesis. And finally, with the demonstration of the cause of the bleeding, methods of preparation have been developed which are no longer empirical.

CAUSE OF HEMORRHAGE

Because the three problems are so closely related, it seems well to begin this paper, which is devoted to the diagnosis of the hemorrhagic tendency, with a brief discussion of the underlying cause of the bleeding, and to close it with a brief discussion of the methods of preparing such patients for operation. We should say at the outset, too, as a matter of simple justice, that to the work of a single man and his group of co-workers we owe much of the light that has been shed upon this perplexing problem. That man is A. J. Quick, formerly of the College of Physicians and Surgeons of Columbia University, now of the Marquette University School of Medicine. To grant him his meed of praise detracts nothing from the work of others, much of which he has brilliantly applied to his own work.

Quick's excellent summary of our present knowledge of the bleeding tendency can profitably be used in this brief discussion. Four agents, he points out, are necessary for the clotting of blood. Prothrombin plus thromboplastin plus calcium results in an active enzyme, thrombin, which in turn reacts with fibrinogen to form fibrin, the basic factor in the blood clot. Repeated studies have never revealed any deficiency in calcium or in fibrinogen, and they may be eliminated from the discussion. The onus of the responsibility clearly lies upon one of the other two factors, but, until Quick himself developed the method, no test was available to demonstrate wherein the deficiency lay, and of what it consisted. Quick's test is based on the observation that the clotting time of oxalated plasma, when mixed with an excess of thromboplastin, which is readily available in the rabbit's brain, and with an optimum amount of calcium, can be employed as a direct measure of the prothrombin content of the plasma. In other words, if thromboplastin and calcium are kept constant, the rate of coagulation is necessarily dependent upon the concentration of prothrombin.

By the use of this test, Quick has been able to show a remarkably constant concentration of prothrombin in normal blood, as well as in the blood of most jaundiced patients, although he noted a definite and sometimes a drastic reduction in the blood of a small number of the latter group. These are the patients with a bleeding tendency, and that tendency can be experimentally reproduced in one of three ways. Almquist and Stockstad, Dam and his associates, and Quick himself have shown that these three causes are a deficiency in vitamin K (the coagulation vitamin of Dam), sweet clover disease, and parenchymatous liver damage. Time does not permit a consideration of the exceedingly ingenious and interesting experiments which form the basis for these conclusions, but one striking observation must be mentioned, the very wide margin of safety in the prothrombin factor, which, Quick has shown, can be reduced to 15 per cent before a critical level is reached and which is associated with no change in the coagulation time until it has fallen to 20 per cent.

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The quantitative prothrombin test devised by Quick is undoubtedly the only scientific diagnostic and prognostic test available today to demonstrate the bleeding tendency. Patients studied by it are thoroughly safeguarded, for it identifies those who exhibit this tendency, it permits the quantitative study of their improvement under proper therapy, and it indicates, finally, the safe period for surgery. But the test, regrettably, is not a simple test, in the sense that it requires the resources of a fairly well equipped laboratory and the services of a competent technician. It is not a bedside test, and it cannot be performed by a person untrained in laboratory methods. The surgeon who possesses these facilities has no excuse for not using it. The surgeon who does not possess them must continue his search for a simpler method.

Some months ago we published the description of a serum volume test for the bleeding tendency in jaundice, which has the virtue of simplicity and which in our hands has proved completely reliable. It requires for its performance only a syringe and a graduated test tube. An arbitrary amount of blood, preferably 3 c. c., is withdrawn and is allowed to stand at room temperature for four hours. At the end of that period the clot is removed and studied for firmness, retractility and other characteristics, and the serum volume in the tube is read. The index is determined by dividing the serum volume by half the volume of blood withdrawn, indices below 1, which is regarded as the standard of normal, being progressively indicative of a tendency to hemorrhage. Tests are repeated as necessary in patients who show a bleeding tendency, to check their improvement under preparation and to determine the safe time for operation.

We might repeat that this test was discovered accidentally, while we were studying jaundiced patients by the Grote test for sulphur compounds. We did not find it useful in this connection, although Carr, Foote and Naffziger have had more satisfactory results with it. Blood serum is necessary for its performance, and we happened to observe that an abnormally small amount was expressed from the clot of a patient who clinically showed the hemorrhagic tendency by frank purpura and hemorrhages from the mucous membranes. Thereafter we practiced quantitative studies of the serum volume in a series of non-jaundiced control patients whose blood studies were normal by standard methods, as well as in all our jaundiced patients. In the normal patients, and in most jaundiced patients, the serum volume was approximately half the volume of the blood withdrawn. In a few jaundiced patients, just as in the one who had furnished the clue, it was considerably less, though in all cases, under proper preoperative therapy, it could be elevated to normal or approximately normal.

Observation of the clot is an important part of this test, because a defective clot is the ultimate manifestation of a prothrombin deficiency. The immediate cause is a defect in fibrin, caused by an inadequate conversion of fibrinogen. Defective clots in patients with a bleeding tendency are large and bulky, they do not retract normally, they cover a large area of filter paper when they are removed from the test tube, and they promptly fall to pieces when handled. The clot in normal subjects or in jaundiced subjects without a bleeding tendency is smaller, firmer and definitely retractile, and shows no tendency toward disintegration.

A routine blood count is necessary to demonstrate anemia, for which the proper correction must be made. If the corpuscular volume is reduced, as it is in anemic subjects, obviously the serum volume will be increased, the disparity increasing with the degree of anemia. Unless the proper correction is made, the index will be dangerously misleading, for it will naturally be higher than it really is. The corrected serum volume is arrived at by subtracting the red blood cells of the patient from five million red blood cells (the normal number), multiplying the result by half the blood volume withdrawn, and dividing the product by five million red blood cells. The index is then calculated as usual. We have also learned from experience that if the blood is not transferred promptly from the syringe to the tube, the clotting process will begin in the syringe and will be disturbed by the transfer, the resulting index being lower than it really is.

We reported in our first contribution 19 cases of obstructive and seven cases of non-obstructive jaundice studied by this test. In this contribution we are reporting 14 cases of obstructive and seven of non-obstructive jaundice which have been studied by this method, by the Ivy venous pressure bleeding test, and by the Quick hippuric acid test of liver function. This is not a statistical study. We are reporting these cases because they have been studied by these three methods, the combination of which has permitted certain significant conclusions.

In the first place, our results with the serum volume test continue to be entirely satisfactory. No patient has indicated any tendency to hemorrhage when the index was within normal limits, and the only ones who have exhibited such a tendency are the patients whom we expected to bleed. We shall comment upon them shortly.

The highest serum volume index at which a patient bled was 0.71, the lowest at which hemorrhage did not occur was 0.78. Apparently the lower limit of safety is somewhere between those two points. Until our experience is considerably wider, however, we personally shall not be willing to operate when the index is below 0.8, as an absolute minimum, and in view of the readiness with which such patients respond to preparation by glucose, transfusion and dietary measures, we think it the part of prudence to wait until the level is approximately normal.

The two patients who bled deserve a brief comment.

CASE REPORTS

The first, a white woman 46 years of age, had a simple exploration for carcinoma of the pancreas, which was too advanced to permit even a short-circuiting operation. By our personal standards her preparation was inadequate and her serum volume index of 0.71 below the safe minimum. The surgeon reported that there was some oozing at operation, and she lost blood through the drainage tube at intervals from the second to the eighth day. On the ninth postoperative day, after repeated transfusions and intensive glucose therapy, her serum volume index reached 0.83.

The second patient who bled was a white male, 69 years of age, who also had a carcinoma of the pancreas, for which cholecystgastrostomy was done. His serum volume index was 0.62 and his preparation was not adequate. The surgeon reported oozing at operation, and the index the day after operation was 0.66, practically what it was three days earlier. He died on the fifth day, from peritonitis, not from hemorrhage, but at autopsy the peritoneal cavity was full of bloody, bile-stained fluid, and the stomach contained coffee grounds material. A soft, waxy clot was seen at the line of the anastomosis.

These two cases suggest several lines of thought. One is that oozing is more usual than hemorrhage at operation, a phenomenon which can easily be explained by the defective character of the clot. The vessels are plugged, but they are not plugged adequately. Furthermore, as we have previously pointed out, bleeding tends to be capillary rather than arterial or venous, and is a treacherous variety which is likely to be entirely overlooked. Another point brought out in these cases is that bleeding is even more likely to occur after operation than at operation, because, as Ivy and his associates note, restlessness, vomiting and similar factors are likely to dislodge the defective clot.

Our results with the Ivy venous pressure bleeding time, as these cases show, have not been entirely satisfactory, though we use it routinely and shall continue to use it routinely. In the first patient just mentioned, the Ivy test with the tourniquet in place for four minutes was slightly above the upper limit of normal, and it was within the normal range the day after operation, which was the day before bleeding began. The Ivy test in the second patient was normal throughout. In a recent report by Boys, the Ivy test apparently demonstrated the patients who did bleed, but indicated a hemorrhagic tendency in some 65.4 per cent of the patients who did not bleed. The report furnishes no clue to this curious situation. Perhaps the length of time the tourniquet was kept in place had something to do with it. It is our custom to make two tests, one after the tourniquet has been in place for one minute, and another after it has been in place for four minutes. There is often a considerable variation in the two bleeding times, though the variation is not at all constant. We have noted also that this test tends to be less reliable as age increases, and presumably, as arteriosclerotic changes develop.

We have observed in the two patients who bled another point which is well worth discussing. We have always personally questioned the direct relationship between the state of the liver and the hemorrhagic tendency, and we still question it, in spite of the apparently conclusive case which Quick has reported in his latest communication on this subject. That a depressed liver function and the hemorrhagic tendency may coexist we do not deny, nor do we deny that they may improve together, as happened in Quick's case, but we still doubt the cause and effect relationship.

In the first of the cases we have reported the patient indicated a hemorrhagic tendency by the serum volume index, and proved it by bleeding, yet the Quick hippuric liver function test before operation was 2.175, 72.5 per cent of normal, which is a safe level, we have found. It fell progressively as her condition grew progressively worse, and as, presumably, the hepatic metastases seen at operation involved more and more of the liver tissue, yet no further hemorrhagic tendency was evident, and the serum volume index improved as the liver dysfunction increased. In the second case a marked hepatic dysfunction was present before operation (0.823, only 27.5 per cent of normal) in association with the serum volume index of 0.62. The liver function was sustained at approximately the same level until death by the use of large quantities of glucose; the serum volume index unfortunately was not repeated.

Another case reported in our first communication furnishes further disproof of the direct relationship between dysfunction and a bleeding tendency.

CASE REPORT

A white male, 69 years of age, was very deeply jaundiced from a common duct obstruction. The first serum volume index was 0.48; after intensive preparation it reached normal, 1. Liver function by the Quick test was 1.823, 60.8 per cent of normal, after intensive preparation; it had originally been 0.786, 26.2 per cent of normal. This patient exhibited no hemorrhagic tendency at operation, nor as autopsy showed, did he bleed thereafter, but he died a typical hyperpyrexic death as the result of his hepatic dysfunction.

A similar case is reported by the Mayo Clinic surgeons. Their patient had proved her hemorrhagic tendency by bleeding at a previous operation; she was adequately prepared and did not bleed at the second operation, but she lost her life from liver insufficiency. On the opposite side of the ledger, we have a large number of patients who exhibited a more or less marked depression of liver function, but whose serum volume index was normal and who did not bleed at operation.

PREPARATION FOR OPERATION

We have prepared these patients in various ways. Glucose is never omitted, because of its effect upon the liver, and we have found Althausen's method of oral administration very satisfactory. We have made free use of transfusion, the best of the immediate methods, according to Quick, because it replaces the missing prothrombin. Transfusion also increases the oxygen saturation curve of the blood, as Judd and Hawkins have pointed out, and so corrects the anoxemia which is sometimes marked in jaundiced patients, particularly when there is associated liver damage. It must be remembered, however, that transfusion has only a temporary effect. It produces no permanent improvement, and preoperative transfusion should never be regarded as a safeguard against postoperative hemorrhage. Walters' statement that there is an optimum time for operation after transfusion is now clear in the light of Quick's demonstration that its good results are due to the replacement of prothrombin.

A high carbohydrate diet is always indicated in such cases, and since the work of Quick and of the Mayo Clinic surgeons has been published, we have supplied vitamin K in the form of tomatoes, lettuce and cabbage, to correct the vitamin deficiency which in the light of present knowledge seems to be the basic deficiency. Bile salts are administered also, for vitamin K is not absorbed in their absence when the obstruction is complete, as the studies of Schmidt and Greaves have shown. We have prepared three patients with initial low serum volume indices by this method, raising the index to normal before operation and carrying the patients through operation and convalescence with no bleeding whatsoever. We also prepared another patient, whose initial serum index of 0.48 rose in ten days to 0.65. After the initial rise in the serum volume index, however, this patient failed to improve. She was not cooperative, but even with transfusion the serum volume index did not rise above 0.70, and remained at that level only temporarily. At the end of four weeks, in desperation, she was operated on, though her serum volume index was only 0.55. Exploration and biopsy were done for a condition which was diagnosed as malignancy of the biliary tract at operation and proved to be carcinoma of the gallbladder, with metastases to the liver and mesentery, at autopsy. The patient oozed very freely from the incision and the biopsy site at operation, and bled to death on the seventh postoperative day. Autopsy revealed about two liters of free blood in the peritoneal cavity, and many organized blood clots adherent to the intra-abdominal structures.

The excellent results reported by Osterberg and Snell, by Quick, and by others who are using vitamin K in its concentrated, readily assimilable form, which is not available to us, plus the good results we personally have secured by our cruder methods of administration, furnish excellent proof that this factor will correct the basic deficiency responsible for the bleeding tendency.

Since this paper was written, two other cases have been observed in which the serum volume test showed a definite tendency to hemorrhage, preparation for surgery was not satisfactory, and postmortem examination confirmed the bleeding tendency.

SUMMARY

1. The underlying causes of the hemorrhagic diathesis in jaundice are discussed, with special reference to Quick's prothrombin theory.

2. The serum volume test for the hemorrhagic diathesis in jaundice, which we described in 1937, is described again, and additional details for its use are mentioned.

3. Twenty-one cases of jaundice are reported, all of which were studied by the serum volume test, the Ivy venous pressure test, and the Quick hippuric acid test of liver function.

a. The serum volume test proved correct in all cases, but the Ivy test did not.

b. The frequent lack of correlation between the serum volume test and the Quick hippuric acid test introduces the question of whether depressed liver function can be invoked to explain all cases of bleeding in jaundice.

4. The preparation of jaundiced patients for surgery is outlined with special reference to the use of transfusion, glucose, and vitamin K.

REPRESENTATIVE CASES OF OBSTRUCTIVE JAUNDICE STUDIED BY SERUM VOLUME INDEX, IVY BLEEDING TIME, AND QUICK LIVER FUNCTION TEST

Case No.	Red Blood Cells	Platelets	Icteric Index	Clotting Time	1 Min. Ivy Time	4 Min. Ivy Time	Serum Volume Index*	% Normal Quick Test**	Diagnosis and Procedure	Comment
1	4,470,000	147,000	50	180 sec.	105 sec.		.65	90.4	Choledocholithiasis	Prepared by vitamin K and bile salts. Note elevation of liver function by liberal use of glucose.
	3,860,000		100				.71	101.0	Choledochostomy	
	3,390,000		200				.78	119.0		
							.93		Stone in ampulla	
2	4,180,000	111,000	85	720 sec.	135 sec.		1.00	95.6	Transduodenal resection	
								95.4		
								85.0		
3	4,870,000	303,000	65	540 sec.	60 sec.	30 sec.	.83	85.7	Choledocholithiasis	Prepared by vitamin K and bile salts. Note postoperative drop in liver function.
			25					54.4	Choledochostomy	
								104.3		
4	4,360,000	370,000	65		105 sec.	225 sec.	.85	97.0	Cholelithiasis	
								89.5	Marked pancreatitis	
								70.0	Cholecystostomy	
5	4,340,000	150,000	100	270 sec.	60 sec.	105 sec.	.76	40.4	Carcinoma of pancreas	Prepared by transfusion, vitamin K and bile salts. Note low liver function and relatively high S. V. I.
			166					63.0	Cholecystgastrostomy	
							.90	92-87.4		
6	4,440,000	190,000	33	45 sec.	60 sec.	90 sec.	.60	112.1	Choledocholithiasis	Prepared by vitamin K and bile salts. Note low S. V. I. and high liver function.
	4,320,000						.62	41.2	Choledochostomy	
							1.00	81.4		
7	4,620,000	320,000	30	240 sec.	150 sec.	180 sec.	.98	79.5	Cholelithiasis	
							.87	87.0	Cholecystectomy	
								120.0		
8	4,410,000	150,000	65		71 sec.	255 sec.	.75	76.0	Common duct stricture	
			30		40 sec.	75 sec.	.78	92.5-122	Cholecystgastrostomy	
								72.8		
9	4,040,000	380,000	50	240 sec.	180 sec.		1.06	127.6	Cholecystitis, hepatitis	
			25					56.4	Cholecystostomy	
								66.5		
10	3,570,000	320,000	50	630 sec.	225 sec.	150 sec.	.71	72.5	Carcinoma of pancreas	Bled intermittently one week postoperative. Second S. V. I. after transfusion, eighth postoperative day. Remained in hospital until death. Note decrease in liver function.
	4,520,000	390,000			210 sec.		.83	69.2	Exploration	
								44.8		
11	3,550,000	270,000		450 sec.	270 sec.	90 sec.	.62	27.4	Carcinoma of pancreas	Oozed at operation. Evidence of further bleeding at autopsy. Second S. V. I. second day.
	2,410,000	200,000		645 sec.	105 sec.	180 sec.	.66	28.8	Cholecystgastrostomy	
								27.0		

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*Serial test.

**First test before operation, second test first or second days after operation. Final tests on discharge.

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DISCUSSION

Dr. George M. Decherd, Jr. (New Orleans): Assay of all conceivably important factors has until recently failed to give any hint as to the nature of the hemorrhagic tendency in certain cases with jaundice. Evidence adduced in the past few years that this bleeding is correlated with, or likely due to, a deficiency in the blood prothrombin content, represents the first real contribution to our knowledge of this serious complication. Used in conjunction with other information obtained from the experimental production of prothrombin deficiency, it implies the proper and adequate prophylactic and therapeutic measures to be employed in these cases. An inadequate intake of vitamin K, hepatic damage, and the feeding of spoiled sweet clover all appear to lead to a bleeding tendency by reducing the content of prothrombin in the blood.

While not conclusive, the evidence seems strong that prothrombin, as well as fibrinogen, is manufactured in the liver. Certainly both may be reduced in severe liver damage, though the level of the former is more readily depressed. The functions of the liver are so varied that it is scarcely to be expected that evaluation of one will make possible a prediction of the status of all of the others. Hence, it is not surprising that the level of blood prothrombin, if it be a product of the liver, does not always run parallel with the function of the liver as determined by tests that have proved of practical value for other purposes.

Vitamin K is fat soluble, but is not a sterol, and does not occur in sources rich in vitamins D or E. It is present in human intestinal contents, either ingested in food or possibly produced by the action of intestinal bacteria. The point to be emphasized is that its absorption requires the presence of bile salts, and is hence deficient in complete biliary obstruction. When such circumstances have led to a reduction of blood prothrombin to 15 to 20 per cent of normal, the bleeding tendency will become manifest, and for administration of vitamin K to be efficacious, it must be supplemented by the use of bile salts or whole bile by mouth or tube. This mode of therapy has proved successful elsewhere in reducing abnormally prolonged prothrombin times in such patients.

Reports available at present indicate that prolongation of the prothrombin time is a valid basis for the prediction of postoperative bleeding in jaundiced individuals. However, facilities for this determination are not widely available, for although it is not extremely difficult to perform, the reagents and conditions under which it is done must be rigidly controlled. Determination of the serum volume index is not open to these objections, and on the contrary may easily and conveniently be done. If further experience in its use confirms the present well-founded opinion as to its utility, it will be recognized as a procedure of great practical value, and render its author deserving of the highest commendation.

Dr. Leo N. Elson (New Orleans): I want to bring out another angle from which I see the causation of hemorrhagic diathesis in jaundice, not that I want to criticize Dr. Boyce's valuable paper and the important test therein described, but to throw more light and give more emphasis to the right treatment, or at least leading to a treatment of some consequence.

From physiologic studies we know that bile is not only an excretion product but has many indispensable enzymotic functions. Among others, it is the most important enzyme in the digestion and absorption of fats and fatty acids, in saponifying them and combining them with calcium, potassium and sodium as oleates or soaps and as such they are absorbed by the body.

Next, bile is well known to have a function of lowering the coagulability and viscosity of the blood. Some years ago, I wrote a monograph on the treatment and prevention of coronary thrombosis. In it, I recommended, among other things, the use of bile and bile salts in all thrombotic states of the blood and hypertensive diseases. How does bile act? By saponification and fixing the available blood calcium to the lipoid substances and cholesterine bodies in the blood. By this means it lowers the coagulability and viscosity of the blood, as fibrinogen minus calcium will never form fibrin.

In jaundice, when the blood contains excessive bile, the calcium is constantly being fixed to the lipins and its availability to combine with fibrinogen to form fibrin, the essential part of the clot, is diminished; hence the hemorrhagic diathesis in jaundice.

For the treatment, Dr. Boyce spoke about the use of vitamins, and the use of calcium was also mentioned. I want to add with emphasis that not only calcium in full sized doses should be used orally and parenterally, but also parathyroid extract should be prescribed to produce a superabundance of available calcium in the blood, and thus lessen the danger of or abolish completely the hemorrhagic diathesis in the jaundiced patient.

THE CHRONICITY OF PULMONARY TUBERCULOSIS*

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Pulmonary tuberculosis is generally accepted as a debilitating and relapsing disease, but its chronicity, like so many other concepts which are clinically taken for granted, is not appreciated as thoroughly as it might be. If it were, some of the tragedies of the disease could be prevented, and practitioners in general might not be so apathetic to the problems entailed. It seems strange and perhaps ludicrous to be required to emphasize today the fact that tuberculosis is frequently fatal, tends to last much longer than one usually anticipates and is ever with us; yet, the complacency with which many practitioners view the disease permits only the conclusion that they have forgotten how long drawn out and expensive phthisis pulmonis may be. It is true that there is a declining mortality rate, but if we are to make that rate fall more yet, we must appreciate that our task is indeed an arduous one.

Tuberculosis is a costly disease, much more so than any other communicable malady. In a series of 100 well studied cases, Sawyer and Richard[1] found that before the average patient was restored to working condition, he had lost more than two and a quarter years, and that the cost of rehabilitating him was $4,602.00. These costs included not only the actual money spent for medical care but also for the auxiliary measures and for the time lost from employment. The average cost per case varied with the extent of involvement: thus, the minimal case might cost $3,218.00 and the moderately advanced $5,578.00, while the far advanced cost a little less, $4,061.00, presumably because most of the patients with far advanced tuberculosis do not live long enough to be more expensive. These costs are not always predictable on the basis of extent of involvement; one of the minimal cases cost $24,509.00 before being rehabilitated.

Now, it is quite possible that many of the poor results of treatment ensue because the marked chronicity and costliness have not been sufficiently impressed on practitioners. It is all too common to find that patients are advised simply "to take it easy" once a diagnosis of pulmonary tuberculosis has been rendered. Admittedly, it is a difficult thing to convince a patient that his only hope of regaining economic usefulness lies in absenting himself from work over a period of months or years; yet, unless this is done at the beginning of treatment, the patient will eventually lose far more time and money as a result.

Certain facts have tended to obscure the natural history of the disease. When the "rest cure" was first instituted, it was found that if tuberculous patients were allowed continuous rest in bed for a few months, a great change usually occurred. They gained weight, the temperature and pulse became normal, and all symptoms disappeared. This rather startling metamorphosis caused clinicians to believe that pulmonary tuberculosis was easily cured, and after a short period of treatment, they considered such patients "arrested." The introduction of the roentgen ray, however, demonstrated conclusively that although clinical symptoms may disappear rapidly, the tuberculous process in the lung often clears and heals very slowly and usually only after years of prolonged and continuous bed rest. Unfortunately, such facts are not sufficiently appreciated even today, after years of re-emphasis placed on them. It is still too common an occurrence to find patients who have taken several "cures" only to relapse into a more serious and progressive phase of the disease. Following a period of therapy, the improved state of well-being has led patients and physicians to conclude that stay of the disease had been obtained and that restrictions might be relaxed. Only the bitter experience of relapses has served to indicate the fallacy of such reasoning.

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It may be that in the majority of instances, the patient voluntarily ceases treatment when he feels well enough to resume work. It should be recalled that someone has wisely stated that "The medical errors of one generation are the popular beliefs of the next"; patients who today want to terminate their course of treatment when symptoms cease are unconsciously applying the lessons learned from an earlier generation of medical counselors. While this is true, the fact remains that many patients are told simply to "take it easy" even today; and if reliance is placed on symptoms only, many patients will be dismissed much too soon.

MORTALITY RATES

Because there has been a steadily decreasing mortality from tuberculosis, we have been lulled into a false sense of security and have been led to believe that the problem of tuberculosis is well under control. The shocking complacency of many practitioners toward tuberculosis is all the more unfounded in light of studies of the present status. Drolet[2] has studied the figures of the past twenty years and has shown conclusively that despite the marked decrease in morbidity and mortality rates there has been practically no decrease in the case-fatality rates for tuberculosis. This is to say that today there is less chance of becoming infected with tuberculosis, and fewer people are dying of the disease, but that the patient who develops it has as much chance of a fatal issue as in years gone by. This horrifying revelation is well documented. Drolet has concluded that ". . . . sanatorium or surgical treatment of pulmonary tuberculosis would seem so far to have had little effect upon the case-fatality rates of the entire tuberculous population in the communities studied, and segregation of active cases along with other general sanitary measures and the improvement in living and working conditions has undoubtedly been a powerful factor limiting infection and preventing the spread of tuberculosis."

Hilleboe[3] has compared the mortality rates of patients discharged from tuberculosis sanatoria with those of similar groups in the general population and has shown that for the patients in his series with minimal tuberculosis the risk of fatality is four times that of the general population; with moderately advanced tuberculosis it is sixteen times and with far advanced forty times. He shows that where a diagnosis is made in the early or minimal stage the risk of fatality is considerably less than where the diagnosis is not established until the process is advanced.

The clinical maxim, "Once infected, always infected" finds corroboration in the necropsy studies of Robertson[4] at the Mayo Clinic who reported a series of routine autopsies where the diagnosis of tuberculosis was never suspected antemortem and found that tuberculous infections may occur and pursue their course without once attracting the attention of the physician or the patient; that recognized tuberculous infections may subside and be regarded throughout life as healed yet still remain continuously active; and that apparently healed tuberculous lesions may become clinically active after varying intervals.

Such studies are certainly not in keeping with the lack of interest encountered these days. In commenting on the general problem of tuberculosis, Varrier-Jones[5] remarked that "The fact that a survey of the tuberculosis problem over the past fifty years shows a decline in the death—and incidence—rates is instructive, but is likely to breed complacency. Action instead of complacency is called for in a disease that is killing four times as rapidly as traffic and for which people fear treatment more than the disease. We look for early cases and discover the cases found are not early. We seem to be still fascinated by clinical manifestations of disease and make efforts to study the pre-breakdown or really early stage. Possibly, our definition of an early case is not correct, and we must strive to antedate our conception of onset."

Now, it ought to be realized that such an uncomplimentary survey does not mean that the entire tuberculosis situation is gloomy. The methods of treatment at our disposal are efficacious and productive of good end results as many studies testify. The above is by no means an indictment of our present forms of therapeusis; rather it is a plea for their more vigorous and consistent use. Patients can be rescued from the ravages of tuberculosis, but only when treatment is intelligently planned and courageously maintained. The practitioner may use the so-called hygienic-dietetic or one of the several forms of collapse therapy or any combination of these, but he must use them early and thoroughly enough. Unless he appreciates that "Tuberculosis never seems as serious as it is" as Head[6] has so wisely remarked, he is apt not to apply proper measures of control; and cases of tuberculosis will lapse needlessly into the chronic stage, the stage where often only heroic measures will suffice, if these avail anything.

THE EARLY DIAGNOSIS

It is virtually axiomatic that to prevent the ill effects of neglected tuberculosis, the disease must be recognized when early or minimal. This is not an easy thing to do most of the time, and there is no denying the fact that it imposes quite a burden on the physician. The first requirement is that the practitioner shall become "tuberculosis-minded" and shall keep phthisis ever in mind. He must always remember that tuberculosis is a possibility, nay a probability, in any state of ill-health when the cause cannot at once be found. When it will be borne in mind that this disease in its earliest stages is seldom ushered in with characteristic symptoms and that typical physical signs are not often present, there will be more recourse to sputum examination and x-ray filming; and when this time comes there will be more diagnosis of early tuberculosis, the kind that the practitioner wants to treat but seldom sees.

Only too often is he deceived into thinking that tuberculosis does not exist because the patient has no cough or expectoration, is gaining weight instead of losing and has no fever. Time and again during the course of routine case-finding studies, patients with minimal or moderately advanced lesions have been discovered, and they had few or no symptoms at all. There is one way and only one way to eliminate tuberculosis as the probable cause for a patient's symptoms and that is to show a normal roentgenogram of the chest. To be sure roentgenography has its limitations, but its assistance has been invaluable for determining the presence and extent of thoracic lesions. The fact remains that if ever minimal tuberculosis is to be detected by intent and not by accident, the disease must be considered where there is nothing in the patient's appearance to suggest it and when even those "in the picture of health" are held suspect until proved otherwise.

It is true that many patients conceal or ignore symptoms of early disease and therefore do not report until their lesions have advanced, and it is also true that many patients appear to have gone almost into the depth of advanced tuberculosis without the preliminaries of a minimal stage. Perhaps such cases are more frequently encountered than is generally realized, but here again only the acuity of the alert practitioner will serve to bring these patients to proper treatment at a time when physical and economic salvage may yet be accomplished.

FUNDAMENTALS OF TREATMENT

Whether the disease is minimal, moderately or far advanced, the principles of treatment are the same; it is only the intensity and their mechanical applications which differ. Generally speaking, the more prolonged is the disease, the more vigorous and the more expensive must treatment be. There is, of course, no way of determining at the onset whether a lesion will progress, retrogress or remain stationary; therefore, only repeated studies and constant observation will suffice. Failure to recognize this will result only in disaster. It is far safer to err on the side of caution and to consider the beginning lesion as grave than to make the mistake of minimizing a process and to fail to render consistent treatment.

It is obvious that only by study of the serial roentgenogram can the practitioner properly follow the course of the disease. Studies of the white blood cell formula and of the red cell sedimentation time will assist in determining the degree of activity of the lesion, yet the film is essential for an appreciation of the changing anatomic-pathologic state. It is particularly important to see whether the lesion is responding to proper methods of therapy. The greater majority of patients will continue to have a modification of the hygienic-dietetic treatment at the onset whether this be instituted in the home or in a sanatorium. If this seems not to be efficacious after a period of time, it is advisable to institute surgical measures for compression of the lesion. Especially is such a plan imperative where there are cavities. Barnes and Barnes[7] have declared that in chronic fibrocaseous tuberculosis with cavitation and sputum containing acid-fast bacilli, the prognosis is very gloomy, for 95 per cent of such patients are dead at the end of five years' time. While such figures are considerably higher than those of other authors, it is definitely known[8] that the huge majority of patients whose cavities do not become completely closed and whose tubercle bacilli do not completely disappear will suffer a replase in the near or distant future and die of tuberculosis or its consequences. The most conservative figure is that 50-75 per cent of them will be dead at the end of this five year period. A certain percentage of these cavities will undergo spontaneous healing if optimal conditions of rest are maintained, but the time of closure is much longer without surgical collapse than with it. It is therefore a safe rule that whenever cavities cease to diminish in size or begin to increase, they are by all tokens ready for surgical measures. It should not be forgotten that the patient with one or more cavities is not only a menace to himself in that spread of the disease is an ever-present threat, but is also a menace to others. His sputum is always loaded with tubercle bacilli, and he is accordingly the most prolific disseminator of the disease. The cavity that does not very soon close of its own accord is one of the most potent stimulators of the chronicity of tuberculosis and tends to perpetuate the disease inside and outside the patient containing it. It must be appreciated that the course of this cavity can be followed by studying x-ray films taken at approximate intervals as well as by studies of sputum and blood. We are helped exceedingly little, if at all, in the average case by a recital of the patient's symptoms or elicitation of physical signs. It is by no means a rarity to see a cavity continue to grow in a patient whose symptoms have long since disappeared and who radiates the appearance of good health, even whose well-being is apparently beyond question. It is common observation that symptoms appear only during periods of exacerbation and sometimes not even then; and their presence may be a warning of imminent or future danger, but their absence certainly does not afford us much of a guide.

IMMOBILIZATION THERAPY

There is abundant statistical evidence to show that collapse therapy offers much to the patient with chronic tuberculosis. If his disease is still minimal and fails to respond to conservative therapy, artificial pneumothorax is the method of choice. Turner and Collins[9] have shown that when combined with rest treatment, this procedure yields excellent results. Even in the moderately advanced and the far advanced patients, it will be followed by some benefits, although its value diminishes, generally speaking, as the amount of disease increases. Those for whom artificial pneumothorax cannot be applied because of technical reasons may be helped by phrenic nerve operations and by thoracoplasty. The most important thing is not which operation shall be employed (because each procedure is reserved for the type of patient who stands the most to benefit by it), but the really significant thing is that some form of collapse therapy shall be used before it is too late. Alexander[8] has justly compared the surgery of tuberculosis with appendectomy for acute appendicitis. Operation for either disease is not radical; it is conservative in the sense that it saves tissue and prevents further loss of function and possibly of life.

The patient with chronic tuberculosis[8] runs great risks if his process cannot be controlled by bed rest alone. The insidious or sudden progression of tuberculous lesions in one or both lungs, the formation or increase in size of cavities, the increasing rigidity of a diseased lung from scar tissue, the development of pleural adhesions, the dangers of occurrence of the various complications of pulmonary tuberculosis at any stage and the harmful effects of prolonged tuberculous toxemia are the risks run from failure to check an active tuberculous lesion as soon as possible. A large number of patients have died from tuberculosis when, at the time they were first seen by the physician, they were suitable for some form of collapse therapy.

If, then, the disasters of relapse and progression of lesions are to be prevented, all patients must be treated intensively and thoroughly. It is necessary to lean heavily on radiologic methods as the basis for determining progression or retrogression of the disease. It is well established that the more intensively the patient has been treated and the longer the period of inactivity allowed for the tuberculous process to become quiescent, the less the chances are that relapse will occur. Fales and Beaudet[10] have attracted attention to the fact that the nearer a patient's condition approaches the status of what could be called radiologically healed lesion, the fewer the post-hospitalization reactivations and deaths there will be. If this is carried to its logical conclusion and patients are not dismissed from treatment until there is complete radiologic evidence of a healed lesion, less than 1 per cent of all patients will relapse. Failure to follow this rule and insistence on being guided by the patient's symptoms or state of well-being is courting the disaster of fatality and is unquestionably contributing handsomely to the chronicity of tuberculosis.

SUMMARY

The chronicity of pulmonary tuberculosis is not appreciated as widely as it should be. Because of this and because practitioners have paid more attention to the symptomatology of patients than to their radiologic aspects, relapses in tuberculosis are frequent. It should be emphasized that pulmonary tuberculosis is an exceedingly chronic disease and that at the onset it is not possible to state whether the disease will be active a period of months or years or even whether a good result can be foretold. The only logical approach to the problem is to make every effort to diagnose the disease early, at the time when it is most amenable to treatment; failing this, to treat all cases intensively and thoroughly and not to reserve surgery for the hopeless or the moribund patient but to utilize surgical principles for all patients who do not show prompt and marked response to the hygienic-dietetic regimen, and to consider each patient as having active pulmonary tuberculosis until there is definite, persistent and consistent radiologic evidence of arrest of the process.

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ADVANTAGES AND DISADVANTAGES OF CYCLOPROPANE ANESTHESIA*

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Cyclopropane, a hydrocarbon gas with the chemical formula C_3H_6, was first described by Freund in 1882. It was introduced by Henderson and Lucas of Toronto[1] as an experimental anesthetic gas in 1929. Ralph Waters of Wisconsin[3,5] first used the gas on humans in 1930. Since that time it has been widely used by anesthetists in America and on the Continent and has steadily gained popularity. This gas is one and one-half times as heavy as air, has a somewhat sweetish, pungent odor, but is not unpleasant when administered properly. It produces anesthesia in relatively low concentrations,[3] 7.4 per cent for first plane anesthesia to 43 per cent for respiratory arrest.

I do not laud cyclopropane as the ideal anesthetic, but wish to call attention to its advantages as well as disadvantages. It must be remembered that each agent has its own definite use and limitations, and, if these limitations are known and adhered to, cyclopropane approaches the ideal inhalation anesthetic and demands a definite place in the armamentarium of the physician-anesthetist.

DISADVANTAGES

1. Cyclopropane is an expensive gas, being about twenty times more costly than ethylene and nitrous oxide. Because of this, expensive apparatus, consisting of a machine with a closed air-tight carbon dioxide absorption system, must be used for administration.

2. Because of its potency, an exacting technic must be used which cannot be mastered by the physician who gives an occasional anesthetic.

3. The usual signs and symptoms of anesthesia are of little value. Color cannot be relied upon because the patient is always pink up to the time of respiratory arrest. Eyeball movement is more reliable but still variable. The patient may be well relaxed with all abdominal and laryngeal reflexes absent with the eyeball still roving or off center, and viceversa. The most reliable sign, but difficult to appreciate, is the breathing. It is always shallow because the carbon dioxide is absorbed and cyclopropane is a mild respiratory depressant; there is no increased depth of respiration when first plane is reached as with the other agents. With cyclopropane the respiration becomes progressively more shallow until respiratory arrest occurs. Therefore the depth of anesthesia can be judged by the depth of respiration, but the changes are minute.

4. Cyclopropane being a respiratory depressant, respiration may cease while the patient is of a good pink color and before relaxation has occurred.

5. There is an increase in blood pressure during induction which gradually approaches normal as the anesthetic continues in an even plane. This would contraindicate its use in extreme hypertension.

6. There may be increased bleeding in the wound, but there is no significant change in the coagulation time.[3] It is possible that the elevated blood pressure may cause more capillary ooze.

7. The gas is inflammable in concentrations ranging from 3.8 per cent to 50 per cent.[1,5] However, it is always used in a closed system so that the only way an explosion could occur would be by production of a spark in the system. This is impossible as the relative humidity in this system is 100 per cent as soon as the patient takes a few breaths.

8. With too high concentrations of the gas there may be arrhythmia or slowing of the pulse and at times tachycardia. With

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increase of oxygen content of the mixture the pulse invariably returns to normal. Electrocardiographic studies have shown that there is no change in the heart function until one and one-half times the concentration necessary for respiratory arrest has been attained, provided proper aeration of the lungs is maintained.[19] If anoxia occurs arrhythmia develops which ceases when the blood is oxygenated.

9. During long operations, which are shocking because of their length and loss of blood, cyclopropane seems to bolster the circulation in an occasional case. As long as the anesthetic continues the pulse is slow and the blood pressure good. But soon after anesthesia ceases the blood pressure falls and the pulse rate becomes elevated, indicating some degree of shock. This state of affairs has given the surgeon and anesthetist a sense of false security, both thinking the patient's condition to be excellent as the operation nears completion, only to find some degree of postoperative shock. I have no explanation for this except that possibly the organism has become accustomed to the high oxygen concentration in the anesthetic mixture and does not do well when suddenly put in a normal atmosphere with 21 per cent oxygen.

10. Circulatory complications are slightly more frequent with cyclopropane than the other anesthetic agents,[12] but in all reports the majority of bad risk cases were anesthetized with cyclopropane.

11. The degree of muscular relaxation equaling that of deep ether or spinal anesth-analgesia cannot be obtained at all times. There is usually some muscle tone present, and the surgeons who are used to deep ether or spinal analgesia often find it difficult to operate on the patient anesthetized with cyclopropane. However, the surgeons who are used to straight nitrous oxide or ethylene extol the marvelous relaxing power of cyclopropane.

The persistent muscle tone mentioned above may not be a disadvantage, as anesthetic shock occurs on the deeply anesthetized patient when all muscle tone including that of blood vessels is lost. Thus, with cyclopropane, anesthetic shock is seldom encountered.

11. A copious flow of saliva occurs in about one-fifth of the cases. This is not due to local irritation of the gas, but is a central effect and is limited to the mouth and pharynx. This saliva may come in contact with the vocal cords and cause laryngospasm during the anesthetic. Gentle pressure on the breathing bag usually prevents the spasm if instituted at the first evidence of crowing.

12. There is one pulmonary complication which is more frequent after cyclopropane than the other agents, namely atelectasis of the peripheral alveoli. This does not occur in short anesthetics, but is more apt to happen in the longer cases. The reason for this is that during a long case the bag may have to be refilled several times because of a slight leak, or the gases may be lost as the mask is adjusted from time to time. After so long a time there remains only cyclopropane, oxygen, and a small amount of carbon dioxide. The inert nitrogen which was in the lungs and trachea at the beginning of the anesthetic has been reduced to an infinitesimal amount. The remaining gases, cyclopropane, oxygen, and carbon dioxide are absorbed rapidly by the lungs. Because of the abundance of oxygen, lack of respiratory stimulation by the low carbon dioxide concentration, and the depressant effect of cyclopropane, the breathing is very shallow. The peripheral alveoli may have no movement; thus these gases are absorbed relatively quickly and peripheral atelectasis results. This complication can be obviated by using some inert gas, which is absorbed slowly, or by hyperventilation at the end of the anesthetic. Both of these things are done when the anesthetic is unduly long. Helium, which is an inert gas and is absorbed seventeen times more slowly than oxygen, is added to the mixture to replace the inert nitrogen which has been lost. Also, after every long operation the patient is hyperventilated by blowing a stream of carbon dioxide on the face until several deep breaths have been taken. This insures expansion of the peripheral al-

veoli with air. Relatively few postoperative pulmonary complications will be encountered if these procedures are routinely carried out.

ADVANTAGES

1. Induction is fast, easy, and pleasant with no throbbing or choking. Deep anesthesia is reached in from five to six minutes, about half the induction time of ether. There is seldom any excitement stage, as this is passed over quickly and the patient senses no feeling of suffocation or irritation to the mucous membranes. Recovery time is short, five to twenty minutes, depending on the depth and length of anesthesia.

2. An abundance of oxygen is present at all times, as fourth stage anesthesia can be reached with 43 per cent cyclopropane.[3] The oxygen content always exceeds 20 per cent and with the carbon dioxide absorption technic the maximum carbon dioxide concentration is 4 per cent.[3] These factors assure easy and shallow breathing at all times. The ease of breathing preserves the patient's energy. The closed system preserves body fluids, as none are lost through the lungs; the reflex sweating of ether anesthesia is not seen. The gas that is breathed is warm and moist; the skin of the patient is always warm, dry, and pink. It is no longer necessary to change the gown because it has been drenched with perspiration during the anesthetic. It follows that body heat is preserved as none is lost by evaporation of excessive perspiration.

3. Depth of anesthesia can be regulated quickly because high concentrations of the gas can be inhaled without irritation to the larynx and without subsequent closure of the glottis and cords, which is nature's physiologic response to irritating vapors. This phenomenon makes endotracheal intubation easy and it can be accomplished in a shorter period of time than with ether.

4. The gas is non-toxic to the body tissues. The liver, kidneys, heart, and lungs present no evidence of damage after high concentrations of the gas have been administered.

5. The use of this gas for anesthesia allows a wide margin of safety. The lethal dose is more than twice the anesthetic dose, and a 50 per cent greater concentration is necessary to cause death after the stage of respiratory arrest has been reached.[19]

6 Cyclopropane has relaxing power approaching that of ether. Adequate relaxation for abdominal surgery is obtained in 85 per cent of cases. In those cases which fall short of good relaxation, the addition of small amounts of ether will usually provide the desired results.

7. Postoperative complications following abdominal operations are less after cyclopropane than the other commonly used anesthetic agents.[3,11,12] Distension is less after cyclopropane than ether because the tone of the intestinal tract is not lost and peristalsis continues. In this feature it possesses one of the advantages common to spinal analgesia. Respiratory complications are 50 per cent less than after ether.[3, 11, 12] The other less frequent complications are retention of urine, pyelitis, and parotitis.

8. Under conditions requiring special technic, with the aid of closed endotracheal cyclopropane anesthesia, the anesthetist can provide just about anything the surgeon desires. This is a great boon to thoracic surgery, usually done on the tuberculous patient. Because of decreased functioning lung tissue, the cramped position, and shallow breathing, the anesthetic mixture must contain a high percentage of oxygen and be non-irritating to the already diseased lung. Only with cyclopropane can this be accomplished. It is possible for the anesthetist to provide apnea, passive respiration, and positive pressure whenever called for during the course of anesthesia.

The results of thyroid surgery are much better with cyclopropane, as a high degree of oxygen can be maintained which is so necessary when the basal metabolic rate is high. In those cases with large glands producing some obstruction the high oxygen content and endotracheal catheter make for a better, smoother anesthetic.

Postoperatively, patients who have had cesarean sections do exceptionally well after cyclopropane anesthesia because there is less nausea and vomiting, less blood loss due to better contractibility of the uterus and less distension because intestinal tone has not been lost.[16]

There are few contraindications to its use. Anemia, heart disease, hyperthyroidism, respiratory obstruction, and thoracic surgery present definite indications for cyclopropane. Most anesthetists have agreed that it is the anesthetic of choice to use on the so-called bad-risk patient. Remembering its limitations, and after weighing the evidence presented, it appears that cyclopropane approaches more nearly the ideal inhalation anesthetic than any other drug which is available at the present time.

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THE THROMBOCYTE IN ALLERGY

A PRELIMINARY REPORT*

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The presence of purpuric patches in five per cent of cases observed in the Department of Allergy at Charity Hospital suggested a possible relation of thrombocytopenia to allergy, especially so in patients with skin allergies with hemorrhagic spots. Many observers before had detected hemorrhages in different clinical entities associated with thrombopenia.

The presence of the platelet in the blood stream has been known fifty years but attracted notice only since 1922. Very little is known of the origin in the body of the platelet; the majority of the writers, however, accept the theory of Wright, who assigns this function to the bone marrow where particles are detached from the megalocytes. The platelet is supposed to liberate a substance having vasoconstrictor power, is formed in the bone marrow and is destroyed in the spleen. X-ray and radium raise the platelet count.

Wright and Minot have attributed to the platelets the chief source of thromboplastin, as a marked fall in the count attends practically all purpuras. Those interested in the function of the platelet will find valuable information from the pen of Allard, Piney, Osler, Frank, Rosenthal, Lippman, Zadek and Rudd. These observers were not interested in allergy especially, but an analysis of their work, as well as that of Shlack, definitely establishes the fact that recovery from disease is accompanied by thrombocytosis, a sign not only of recovery in acute cases but of definite favorable prognosis whenever observed. The object of my research was to ascertain whether or not recovery from an allergic spell is accompanied by a rise in the platelet count; the normal is 1 to 16 red blood cells.

Platelets however have such a short life (Duke) in the blood stream, and the high and low normal levels are so variable, that one hesitates to draw conclusions in a small group of cases (27 in all).

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I was gratified to note that my cases as to course and prognosis, as shown in the schedules submitted below, confirmed the conclusion of former writers. I was curious to ascertain why the count showed such variation, what agents we could use to raise the count, and whether or not it was possible to prevent a recurrence of hay fever, asthma or skin allergy by inducing a thrombocytosis. The result of the counts only is submitted in this paper; I hope to report later on the balance of the observations.

CASE ANALYSIS

My cases are not imposing enough to establish definitely what low level in the count heralds an attack, or what rise points to recovery, but the figures given are sufficiently accurate and interesting to form a basis for future research and corroboration. I selected from the rich material offered by the clinic, at first 35 cases of the most serious forms of allergy but was able to gather complete data only in 27 cases distributed as follows:

TABLE I

Hay fever	5
Allergy	5
Asthma	16
Skin and allergic conjunctivitis	1

The first count was made during the spell, the second within two weeks of the spell. The result was as follows:

A. Hay Fever: All cases whether spring or fall showed an average rise of 55,600.

TABLE II

PLATELET COUNT IN HAY FEVER

Patient	Antigen	During Attack	In Convalescence
G. D.	Ragweed	325,000	350,000
G. P.	Ragweed	325,000	250,000
	(focus in teeth)		
H. B.	Ragweed	250,000	375,000
M. P.	Ragweed	223,400	265,000
T. J.	Grass	212,940	273,780

B. Asthma: The spring variety showed an average rise of 21,086, the fall of 12,412. Both combined, an average of 17,231. The three cases which showed a fall in convalescence were: one case complicated with sinusitis, and two cases complicated with tuberculosis.

TABLE III

PLATELET COUNT IN ASTHMA

Patient	Antigen	During Attack	In Convalescence
B. H.	Grass	250,000	265,000
	(focus in teeth)		
P. A.	Grass	114,910	213,830
	(focus in tonsil)		
A. A.	Grass	195,000	235,000
A. S.	Ragweed	530,200	510,100
E. W.	Grass	389,640	237,500
	(tuberculosis)		
V. M.	Ragweed	240,000	260,000
C. L.	Ragweed	225,000	230,000
	(rickets)		
L. R.	Grass	290,000	260,000
	(aneurysm)		
D. W.	Grass	350,000	250,000
M. N.	Ragweed	306,400	295,000
	(sinus)		
F. R.	Ragweed	411,600	507,650
L. M.	Grass	205,000	270,000
N. J.	Ragweed	223,000	198,645
A. T.	Ragweed	400,000	360,000
I. E.	Grass	342,000	420,000
	(tuberculosis)	(vaccine given)	

C. Skin allergy showed an average fall of 8,000. Eliminating one case where large doses of vaccine were used, the cases then showed an average rise of 27,000.

TABLE IV

PLATELET COUNT IN SKIN ALLERGY AND CONJUNCTIVITIS

Patient	Antigen	During Attack	In Convalescence
L. C.	Grass	250,000	300,000
O. D.	Ragweed	440,000	326,000
M. W.	Grass	225,000	375,000
R. G.	Grass	534,200	370,000
M. B.	Ragweed	250,000	275,000
R. S.	Conjunctivitis	210,000	230,000

There were exceptions to the above findings. These are shown in the following table:

TABLE V

2 cases of skin allergy, grass and ragweed.
1 case of asthma, ragweed with sinusitis.
2 cases of tuberculosis, with grass allergy.
1 case (ragweed) in a child.
1 case (grass) with an aneurysm.

Note *all* cases of hay fever (1 grass and five ragweed) without exception showed a rise during convalescence.

DISCUSSION

From an analysis of the cases submitted, I am convinced that improvement in uncomplicated asthma and hay fever is always indicated by a rise of the platelet.

One of my diabetic patients with hemorrhagic patches cleared up and stayed cleared up with liver extracts given hypodermically, due in our estimation to the increase in the platelets. The mysterious role which the spleen is supposed to play in hay fever and asthma may be accounted for by the influence of the spleen on the thrombocyte count as observed by Bedson, Bachman, and Hultgren; so also the study of Meyers, Maingot and Gordon on the spleen and those of Gordon, Alrutz, Norbell and Piette. Kercki and Peliczar have likewise made interesting studies of the platelet in anaphylaxis.

Squire and Madison found a direct relation between food allergy and thrombocytopenic purpura, the count falling with the postprandial rise of eosinophiles from certain foodstuff in a series of children. The reverse was noted on the withdrawal of the offending allergen. In view of the research of McLean and Caffey, however, the conclusions are not as certain as they would be in adults. Though the majority of the cases of Squire and Madison were between two and sixteen years of age, yet these conclusions deserve serious consideration and no doubt will be confirmed.

CONCLUSIONS

From the investigation so far made I present the following:

1. The allergic spell, whether the shock organ be the nose, bronchi or skin is, as a rule, indicated by a drop of the platelets in the peripheral circulation.

2. Improvement is usually indicated by a marked rise in the count.

COSTS OF PNEUMONIA.——The average case of pneumonia in New York City costs $167.60, according to "A Study of the Economics of Pneumonia" conducted by Hirsh. This figure, according to Hirsh, may be taken as a fair average for the costs of pneumonia care in large cities, especially in the northeastern states. If it is representative of the costs for diagnosis and treatment of pneumonia, the annual bill for this disease in the United States amounts to more than $75,000,000.

"Pneumonia accounts for well in excess of 450,000 cases of illness a year in this country," Hirsh said, "approximately 25 per cent of which are fatal. This toll exceeds that of any other communicable disease. It also contributes to many thousands of deaths annually which are officially attributed to other causes, and the extent of this contribution has never been accurately evaluated."

Both difficult and expensive to treat, pneumonia presents a serious medical problem. Because of its extensive duration (for many of the non-fatal cases) and complexity of treatment, it creates also a very definite economic problem. This study was made in an effort to determine the amount and nature of costs of caring for pneumonia. It was compiled from the records of 625 pneumonia cases, in five hospitals, one home nursing service, and home cases, in New York City. In each latter case, there were private physicians; of the hospital cases, 400 were ward, 66 semi-private, and 94 private.

Top costs ran up as high as $1,554, while as little as $5.50 was spent at the other extreme. Those cases treated in the hospital were generally much higher than those in the home, although the cost of ward care was almost as low as home care. The average cost for semi-private cases came to about $225; for private cases, $267, as compared with the low cost for the ward cases, $145.

Physicians' services were estimated at minimum rates, even though not actually paid for by patients in the ward. They constituted only 24 per cent of the total cost, with a somewhat higher percentage in semi-private and private cases.

The use of serum, which has reduced the mortality from pneumonia, has added substantially to costs. In the average case in which it was used, it amounted to $70.

These figures are especially significant in the light of recent findings of the National Health Survey which showed that more than half of the families in New York City have incomes below $125 a month. Thus, Hirsh pointed out, few persons can shoulder the costs of an unexpected illness which amounts to more than 10 per cent of their annual income.

Striking persons of every age, sex, color, and social group, pneumonia is the leading cause of death at the extremes of life. Forty per cent of the total number of deaths due to this disease are among men and women in the most economically productive period of life, those between 15 and 64.

"Their deaths," declared Hirsh, "rob families of breadwinners, industry of producers, and communities of consumers." Further, "there is a much lower death rate among professional and business men than among unskilled workers. Thus, the responsibility for the care of many of these cases falls upon the community since many individuals find treatment of the disease too expensive for them to hear."

Public Health Reports,
December 9, 1938.

A RESTRAINING BELT*

OSCAR W. BETHEA, M. D.†
NEW ORLEANS

Many devices have been employed for keeping the unwilling patient in bed. Most of these entail a measure of restraint that is uncomfortable, and may be very much resented by the victim in his more lucid moments.

The restraining belt here presented has been used for several years at the Baptist and Charity hospitals in New Orleans and the following advantages have been demonstrated: First, it is effective. No patient has yet freed himself from this restraint. Second, it allows free movement of the arms and of the lower extremities and some use of the body. Third, it is free from the possibilities of injury especially when applied over the sleeping garment. Only a few minor cases of chafing have been noted. Fourth, it has occasioned a minimum of resentment on the part of the patient.

This device consists of a band that is to be drawn tightly across the mattress and under the chest of the patient and fastened on each side of the bed by a lock buckle. Attached to this are two pieces that meet in front of the chest and fasten with a lock buckle. A shoulder strap on each side prevents the patient from working himself up and out. The belts that have been used experimentally were rather crudely made in a local shop. Having proved an effective yet kindly appliance, they are being put on the market (unpatented) by A. S. Aloe Company of St. Louis, Mo.

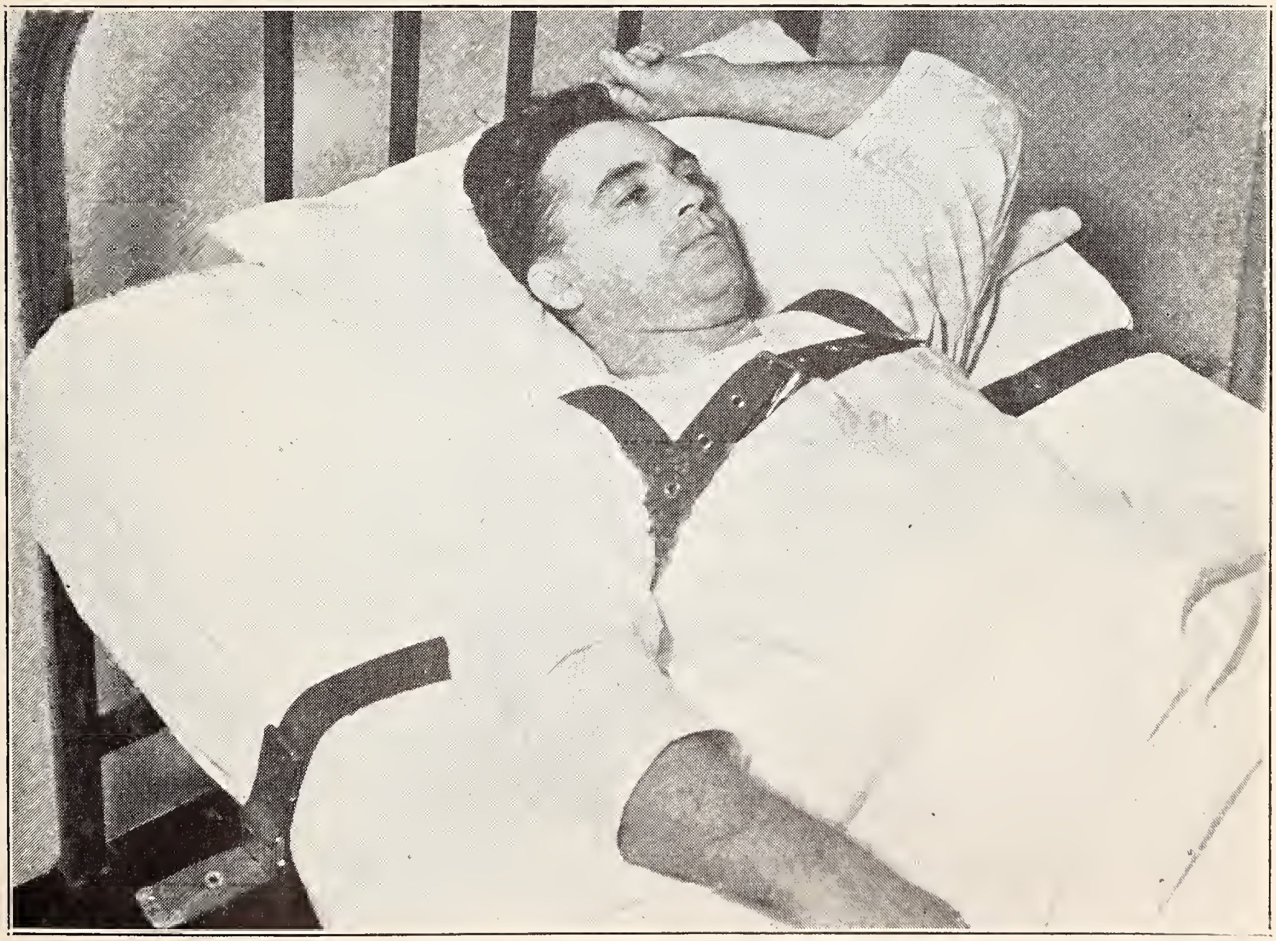

Fig. 1. Restraining belt properly adjusted.

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*Presented at a meeting of the Orleans Parish Medical Society, November 14, 1938.

†From the Department of Medicine, Tulane University.

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THE NEW YEAR

The new year dawns, apparently with a few bright rays of light shining through the dull morning clouds. Business on the whole seems to be on the up-grade. People are buying more than they did, and reports from all parts of the state indicate that they are paying their doctors' bills a little more cheerfully, and happily and promptly than at any time in the last nine years except for a brief few months about a year ago. Perhaps the period of depression in the United States is passing; perhaps we are in a chronic state of depression from which we, and all other peoples of the world who are in a similar fix, may never emerge. In spite of the depression, however, it is safe to gamble that the medical profession of the State of Louisiana will enjoy life, and that their life is well worth while, not only to themselves and to their families, but also to innumerable people to whom they give service. After all, life is what you make of it yourself, and in spite of financial worries, family griefs or other troubles, to paraphrase an old saying, "A man worth while is a man who can smile," and doctors can and do smile despite night calls, harrassing patients and punctured tires.

May the New Year be the best year you have ever enjoyed, is the earnest wish of the New Orleans Medical and Surgical Journal and of those connected with it!

PERSECUTION AND PROSECUTION

The American doctor leads a more or less isolated life. He comes in contact with many people, it is true, but they are usually the sick who are primarily interested in their illness, and most of them are women. He probably reads in the paper that men in business, particularly "big business," have been complaining bitterly about the interference of the Government in their affairs. He does not realize, however, that Governmental interference may possibly be a tremendous factor in reducing the efficiency of the business man, besides subjecting him to a tremendous amount of expense in order to make reports, to get up figures and to fill out forms. Raymond Moley, in an editorial in News Week a short time ago, said it is a great pity that "a man like Wilke, president of the Commonwealth and Southern, and other business men, has been compelled to turn away from the process of expanding business enterprise and to re-employ millions of the unemployed . . . that he has been compelled to spend his great talents in an unproductive controversy."

Now it is the turn of the medical profession to be assailed. It is about to be investigated through its chief medical organization. The men who are officers in this organization have been compelled to stop their usual productive activities in order to prepare for a subpoena relative to the District of Columbia case. In a recent visit to the headquarters of the Association it was found that the men at the head of several important divisions were spending day and night, to the detriment of their regular duties, in order to collect a tremendous amount of data and facts relative to the relations of the American medical profession to the individual medical man. Not only were all files of many years back subpoenaed but even such minutiae as intra-departmental communications subpoenaed. The time and energy required to get these filed papers together are terrifically demanding. All this simply because the Federal Government has decided, through a few cock-brained individuals, that the American Medical Association controls in every way, form and manner the practice of medicine in the United States. This subpoenaing of records is probably entirely a fishing expedition. It is hoped that something will be found against the American Medical Association which will substantiate what these few Washington officials think is true but about which they have no proof whatsoever, nor will any proof be brought forth about something which is not true.

Nor is this all. Recently over one of the big radio chains a debate was held between the editor of the Journal of the American Medical Association and a representative of the Department of Justice at Washington. In this debate the Washington speaker tried and convicted the American Medical Association before a trial had taken place. This certainly is a remarkable and deplorable state of affairs, that the Government through its trial officials should attempt to prejudice a case even before this case had appeared before a jury is almost unbelievable and unthinkable.

The above paragraphs may seem like a tirade against the Federal Government or rather a few of its employees. It is, but it is well deserved. A few Federal Government officials are apparently firmly convinced that state medicine should be introduced at a very early time. In order to have the backing of the American people, which they undoubtedly do not have at the present time, they are attempting by propaganda and by half truths to confuse the people by contending that the way American medicine is conducted at the present time is harmful to the individual and to the population as a whole. When, as and if, through their propagandizing channels they may be able to give the American public a distorted idea of medical practice, then they feel the time will be ripe to spring state medicine on the American voter.

This is really most lamentable. American medicine needs no defense. One of the important officials of Washington has just pointed out that the death rate last year was lower than it had been in this country for many years. The health of the population as a whole is guarded most effectively by present day methods. The people of America receive better medical care than any country in the world. There is never a serious illness or epidemic which is not taken care of adequately. If the American man, woman or child is not getting medical care it is either because of their unwillingness to make use of the existing facilities or else it is sure to be some minor condition which is of minimum moment. Did any one in Washington ever hear of an indigent patient with a broken leg or a pneumonia or an acute appendicitis who does not receive the same care, attention and skill that a person would receive who can afford to pay?

SMOKING

The scientific physician can prove that tobacco smoking may have unfavorable effects on the human being. The smoker feels that these effects are minimal and that they are overshadowed by the pleasure derived from inhaling a cigar, cigarette or a pipe. Of course, ultimately this smoking becomes a habit, broken sometimes with difficulty, and rarely.

One of the untoward effects of cigarette smoking which has not been generally recognized is described by Segal[1] in a recent article. He recounts briefly the history of six patients who complained of chronic fatigue and ease of tire. None of these people could be called heavy smokers except, perhaps, one. When they stopped smoking, in a period of a very few weeks, fatigue disappeared, energy increased and they gained weight.

Nicotine is the substance in the smoke that produces the systemic effect. The local effect, such as morning cough and irritation of the throat, is produced by pyridine and its compounds. Nicotine is a vasoconstrictor that raises the blood pressure, increases pulse rate and decreases skin temperature. It is possible that the fatigue may depend upon the primary rise of pulse rate and increase in blood pressure, which is succeeded by a fall in pressure. Noticeable effects are not perceived by any means in all people. They are very much more likely to take place in those who are under fifty years of age than in the older generations. This statement is substantiated by a series of studies on young and old people after a cigarette. In the young people, the increase in pulse rate was as high as 50 per minute, and the average in the group was 21. In the older individuals, 7 of the 11 showed no increase in heart rate, and the average increase was only four beats per minute as contrasted with the group under thirty-five, in which it was 23. The electrocardiographic studies showed that there was a decrease in the height of the T-wave in the young group, which was very slight in the older group. Incidentally, Segal notices that there was no difference in the effect of the standard brands of cigarettes as contrasted with two denicotinized brands. He studied, also, electrocardiograms to determine the efficiency of the so-called filters, and found that there are the same effects produced as with the unfiltered smoke. He concedes, however, that where the filter may remove some of the nicotine it does not remove enough, because, while 3.33 mg. of nicotine are taken in by the body when a cigarette is smoked, even the most effective filter cannot eliminate the 1 mg. of this drug which can produce a systemic effect. The assumption on which Segal explains fatigue that occurs in some individuals after smoking is that smoking produces a rise in blood sugar; this in turn depletes the muscle glycogen, a loss of potential muscular energy. Excessive or repeated cigarette smoking continues to remove muscle glycogen, leaving the muscle tired and exhausted. The change in T-wave "represents a reaction of the heart to increased work," which, the author believes, does no good and probably does harm over a period of time.

It would be interesting to have had a more detailed analysis of the effect of smoke on the two sexes. Women are thought to be more frequently affected than men by the action of nicotine or by small doses of the substance. There is a certain amount of experimental evidence to prove this, but it is not brought out in this paper.

Irrespective of whether or not nicotine does do harm, possibly the evil effects of smoking are counteracted by the rise in blood sugar, by the soothing of the nerves and by the enjoyment of smoking. The physician cannot say ex cathedra that smoking harms everyone; he should judge the individual patient and whether it is advisable for that patient to smoke or not to smoke.

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[1] Segal, H. L.: Cigarette smoking: 1. As a cause of fatigue. 2. Effects on the electrocardiogram with and without the use of filters, Am. J. Med. Sci., 196: 851, 1938.

HOSPITAL STAFF TRANSACTIONS AND CLINICAL MEETINGS

HIGHLAND SANITARIUM

Shreveport

The Staff of the Highland Sanitarium held its monthly meeting at 8 p. m., December 15, 1938, in the Clinic Building, following dinner in the Sanitarium dining room.

The following officers were elected for the coming year: Drs. T. B. Tooke, president; M. M. Collins, vice-president; H. W. Boggs, secretary.

SCIENTIFIC PROGRAM

Dr. Dean H. Duncan gave a very instructive talk regarding the newer treatment of mental disorders, mentioning some of the history in regard to the discovery of hypoglycemic shock with insulin. Dr. Duncan then discussed the method of giving insulin therapy and metrazol therapy, including the mechanism accounting for the good results, the results up to the present time being 28 per cent in old cases and 90 per cent in early cases. The bad results were also mentioned and the treatment of complications.

Dr. J. A. Hendrick presented a most interesting report of the recent meeting of the Eastern Branch of the Urology Association of America. Dr. Hendrick discussed several papers on such subjects as the treatment of recurrent kidney stone, the dissolution of stones, interstitial cystitis of the bladder, tumors, and a paper on surgery of the prostate by Dr. Young.

PAUL W. WINDER, M. D., Sec.

SHREVEPORT CHARITY HOSPITAL

Shreveport

The meeeting of the staff was opened at 6:40 p. m. on November 15, 1938, by the President of the Staff, Dr. J. M. Bodenheimer.

The minutes of the previous meeting were read and approved as read.

SCIENTIFIC PROGRAM

1. A case of congenital displacement of the kidney with marked nervous symptoms. Dr. Johnston narrated the history and course of the case and Dr. Gill presented a discussion of the case.

The nervous symptoms, which began in childhood, became progressively worse until on last admission the patient was entered in hysterical coma. Hysteria, crying spells, and pain in lower left quadrant predominated. Pyelogram showed the left kidney to be over the promontory of the sacrum. P. S. P. and other tests showed normal function of the ectopic kidney. Relief was not obtained by oral administration of urinary antiseptics, and cystoscopic drainage gave only temporary relief. Since the grave nervous symptoms were due to the ectopic kidney, operation was decided upon. Following operation by anterior route with removal of the kidney, nephropexy being impossible, the nervous and mental conditions were relieved immediately and patient's outlook has been splendid since then.

Discussion by Drs. Potts, Mays and Winder.

2. The second case, an unusual clinical manifestation in amebic abscess of liver, was presented by Dr. Campbell.

No history of diarrhea or jaundice obtainable. No fever present throughout course of treatment. Large mass over liver, fluctuant anteriorly. Aspiration was done and about 4,250 c.c. of dark greenish fluid was withdrawn, and amebic cysts were demonstrated in the fluid. Emetine hydrochloride 1-1000 was used to irrigate the abscess cavity. The patient was given emetine hydrochloride, grains 1, daily for 7 days. Response to therapy was good.

Dr. Potts discussed a similar case which was treated by surgical drainage, plus emetine hydrochloride grains 1 daily. Discussion also by Dr. Cassity and Dr. Weber.

3. The third case was for diagnosis, and was presented by Dr. Jones. Impression on admission was pneumonitis and streptococcic sore throat; later suggestions were bacterial endocarditis and rheumatic fever. Felix-Weil reaction negative for typhus fever; malaria smears negative; no response to quinine sulfate; agglutination negative for typhoid and brucellosis. Fever responded to quinine dihydrochloride and quinidine. Murmur is still present over apex of heart; joint swellings have subsided and spleen no longer palpable.

Discussion by Drs. Boyd, Mays, Shavin and Eaddy. Tularemia, undulant fever and septicemia believed not entirely ruled out.

Dr. Bodenheimer urged the various committeemen to be active in the interest of improving hospital service.

W. M. HALL, M. D., Sec.

HOTEL DIEU

New Orleans

The regular monthly meeting of the Staff of Hotel Dieu was held in the Nurses' Lecture Room of Hotel Dieu on Tuesday, November 22, 1938.

The meeting was called to order by the President, Dr. A. D. Mouledous, and with the Secretary, Dr. C. E. Gorman, at the desk.

Dr. John Couret presented a fatal case of estivo-autumnal malaria with autopsy findings, gross and microscopic.

Dr. C. J. Tripoli: This case was selected for presentation because of the rarity of occurrence of this particular disease in an obese individual. None of the usual causes of heart enlargement are obvious and after considering all etiologic factors we find that this patient fulfills the criteria for diagnosis of a chronic deficiency (beri-beri, B_1), heart disease with left and right ventricular dilatation, probable right auricular dilatation, occasional ventricular ectopic rhythm; type II B.

The anemia in this case was obviously produced by sulfanilamide. Further proving the accepted diagnostic criteria as correct was the complete alleviation of symptoms on specific therapy consisting of iron, vitamin B_1 and liver extract.

In discussing this case, the frequency of this disease in our every day practice and the dramatic disappearance of symptoms under specific therapy were stressed.

A review of the physiologic mechanisms and the pathologic lesions characteristic of this disease were also presented.

CASE REPORT

The patient complained of shortness of breath and swelling of the feet and legs.

Since January 1938 this patient has had edema of the feet, ankles, legs and thighs present all the time but diminished slightly on arising in the morning. There was also dyspnea on slight exertion and fullness in the epigastrium following meals. The edema has become progressively worse despite rest in bed and digitalis. At no time has there been any complete alleviation of the patient's symptoms during his illness.

Complete review of systems reveals no noteworthy factors except those usually accompanying persistent congestive heart failure.

In November 1937 a prostatic resection was undertaken for urinary infection and prostatic hypertrophy. Following operation the infection was controlled by sulfanilamide which was necessarily given over a period of one month. During this time diet consisted of broth, fruit juice, sweet drinks, jello, and potatoes, due to lack of appetite. The past history presented nothing of note except a dysuria for the previous several years for which operation was undertaken.

No factors of diagnostic importance were noted in the family, social or marital histories.

Physical examination revealed a well developed and nourished white male, 65 years of age, lying in bed on a back rest, not acutely ill. The temperature was 98.6°F., respiration 20, pulse 80, B. P. 100/70; weight 210 pounds, height five feet, seven inches. There were no abnormalities noted in eyes, ears, nose and throat. Neck revealed engorged and pulsating external jugular veins. The veins of the chest were visibly distended despite the patient's obesity. Expansion was bilateral, equal and symmetrical. The lungs showed dulness on percussion and crepitant rales present at both bases. Apex beat not visible. On palpation apex beat could be elicited 15 cm. to the left of the midline in the fifth interspace. Heart sounds were distant and a low, barely audible systolic murmur could be heard over the apex of the heart. This murmur was not transmitted. There was no demonstrable evidence of arteriosclerosis of the peripheral vascular system, including the retinal vessels. The abdomen was protuberant and free fluid demonstrable in both flanks. Liver, spleen, and kidneys were not palpable. The genitalia showed no external clinical abnormalities. The reflexes were present, equal and symmetrical, but markedly diminished. The extremities showed a bilateral tenderness over both calf muscles.

Laboratory: Blood: red blood cells 3,100,000; hemoglobin 60 per cent (Sahli); white blood cells 6,000; differential, normal. Red blood cell changes were consistent with normocytic hypochromic anemia. Blood chemistry: no abnormalities. Blood Wassermann: Negative. Total blood protein: 6.2 gm./100 c.c. Urinalyses showed no abnormalities except trace of albumin and few pus cells per low power field. P. S. P. intramuscularly 28 per cent and 23 per cent respectively on two different occasions. Stool examination: No occult blood, no larvae, ova or cysts of parasites. X-ray examination: Genito-urinary tract; no evidence of urinary calculi. Chest: Heart markedly enlarged to the left; lungs and aorta normal; heart measurements; transverse diameter of the chest 30 cm; transverse diameter of the heart 18.8 cm. Electrocardiogram: Q_1, Q_2 and Q_3 present; slurring in all leads, notching at the apex in lead I; occasional left ventricular extrasystoles; T waves low in all leads.

Diagnosis: Chronic deficiency (beri-beri or B_1); heart disease with left and right ventricular dilatation; probable right auricular dilatation, and mitral incompetency, occasional ventricular ectopic beat, type II B.

Progress: After ten days of specific therapy edema disappeared. Patient lost eleven pounds in weight and at the end of one month cardiac transverse measurement was 16 cm. in diameter and blood pressure 120/90. Red blood cell count was 4,500,000. Patient up and about and performing routine duties.

J. T. NIX CLINIC

New Orleans

At the meeting held in October, Doctor J. M. Perret presented the following paper:

PRIMARY CARCINOMA OF THE LIVER
REPORT OF THREE CASES

(Continued from November Issue)

Case 1. M. C. E., a white male of 49 years, a rice buyer by occupation, was admitted to Hotel Dieu, New Orleans, on December 7, 1929, complaining of vomiting. The present illness began on November 16, 1929, when he vomited everything that he ate. The vomiting stopped when he took soft diet, but recurred again after a week. He has not had blood in the vomitus or in the stools. There have been no abdominal pains. The appetite was fair and the bowels were regular.

Past History: He has had the usual childhood diseases. Influenza in 1918 but no other serious illness. He has never been operated on.

Physical Examination: Nutrition was fair. The scalp, eyes, ears, thyroid were negative. The mouth was in good condition. Chest: The heart and lungs were negative. Blood pressure 100/60. Abdomen: There was a mass in the epigastrium about the size of a hen egg. The liver was somewhat tender. The spleen was not felt.

Laboratory Examinations: Urine: There was a slight trace of albumin; hyaline, finely and coarsely granular casts and a few pus cells were found. Phenolsulphonephthalein test: first hour, 35 per cent; second hour, 20 per cent. Blood: total white count, 21,800; differential count: small lymphocytes, 14; large lymphocytes, 2; neutrophiles, 84. Malaria, negative. Blood Chemistry: Non-protein nitrogen, 60 mg. per 100 c.c.; urea nitrogen, 30 mg. per 100 c.c.; creatinine, 2.7 mg. per 100 c.c.; sugar, 96 mg. per 100 c.c.

X-ray Examination: Chest: heart, lungs and aorta were normal. Esophagus was negative. Stomach: normal in outline and motility, high in abdomen, fair size six hour residue, moderate twenty-four hour residue. Duodenum: first portion, dilated, normally filled; second portion, markedly enlarged with evidence of incomplete obstruction at the junction of the second and third portions. Cecum, slightly tender, not freely movable. Appendix, not seen. Colon, negative. Conclusion: Incomplete obstruction of duodenum and appendicitis.

Operation was performed by Dr. J. T. Nix, December 14, 1929. Properative clinical diagnosis: probable carcinoma of the stomach. X-ray diagnosis: incomplete obstruction of duodenum; appendicitis.

A large incision was made in the mid rectus to right of median line above umbilicus, beginning from a point at level of umbilicus and extending to costal border. On opening the abdominal cavity the stomach and the duodenum presented one large tube. The pylorus was about two and one-half inches in diameter. A hard mass was felt on the surface of the liver. A posterior gastroenterostomy was done with linen sutures. The patient began to do badly when the operation was about one-half finished. In spite of all efforts he succumbed as the final sutures were being placed. Before his death the liver was visualized and found to be completely filled with large areas resembling carcinomatous growths; one about four inches in diameter and the size of a closed fist was present on the under surface of the liver.

Autopsy report on body of M. C. E. by Dr. M. Couret: Abdominal cavity: the omentum and peritoneum showed nothing of special note. Spleen was examined in situ and was slightly larger than normal and moderately filled with concretions. Kidneys were examined in situ and appeared normal in size. Liver was found to be slightly larger than normal but studded throughout with large tumor masses. These varied in size from that of a pin head to that of a small orange, very firm in consistency and pearl gray in color with yellowish gritty centers in the larger tumors (necrosis).

Anatomic Diagnosis: Carcinoma of the liver (primary).

Microscopic Examination: Microscopically, the liver showed extensive infiltration of a neoplasm, showing an atypical picture of glandular acini and ducts. The character of the epithelium lining these ducts was very irregular with large, small, and multilobar nuclei. The cancerous cells belong to Brodie's III and IV types. Mitosis was extensive and there was much necrosis present. The fibrous tissue reaction to the neoplasm was scant, so that it is difficult to outline where the tumor ended since infiltration of the cancer cells through the remaining liver tissue was extensive. The remaining liver tissue showed cloudy swelling, moderate fatty degeneration and marked pressure atrophy of the cells nearest to the invading neoplasm. There were patches of round cell infiltration (lymph and plasma cells) scattered throughout the liver tissue and less so in the stroma supporting the cancer cell. The portal tracts also showed moderate round cell infiltration and fibrosis. There was no definite cirrhosis found. The neoplasm would appear to have started in the bile radicals or the smaller ducts.

Diagnosis: Primary adenocarcinoma of the liver.

Case 2. DeJ. H. J., a white male of 72 years, engineer and machinist, was treated in 1925 for a bronchitis which had been chronic with him since childhood. In 1921 he had had a dry pleurisy which had incapacitated him for a week. As a young man he had had urethritis. Habits: He drank one-half gallon of beer a day (worked in a brewery) and smoked twelve cigars. Up to four months previous he had smoked twenty to thirty cigarettes a day.

Family History: One brother died of tuberculosis.

Physical Examination: The heart showed an accentuation of the aortic second sound. There was peripheral arteriosclerosis. Blood pressure, 162/86. Lungs showed distant breath sounds over the back but no rales. Abdomen was prominent, puffed out and probably had some ascites. The viscera were not palpable.

Laboratory Examinations: Urinalysis, negative. Phenolsulphonephthalein test: 200 c.c., 50 per cent in two hours. Blood: total white count, 7,000; differential count: small lymphocytes, 30; large lymphocytes, 2; neutrophiles, 68. Wassermann, negative. Sputum, negative for acid fast bacilli.

X-ray of Chest: Heart and aorta, negative. Lungs, irregular increase of density extending well to periphery of lungs. Increased density of right apex. Some linear markings in the left apex. Areas of calcification in hilus region. Conclusion: Evidence of tuberculosis.

X-ray of Gastro-intestinal Tract: Evidence of chronic appendicitis.

On April 28, 1930, the patient had an appendectomy with an uneventful recovery.

From October, 1930, until September, 1933, the patient was not seen. On September 27, 1933, we saw the patient at his home as he was again suffering from bronchial symptoms and had had fever for several days. During the succeeding week he had several attacks of hemoptysis, amounting to a few ounces of blood. The patient's general condition at this time was very poor. He was extremely emaciated and had lost about twenty-five pounds during the previous year.

Physical examination revealed the physical signs of chronic bronchitis with bronchiectasis and consolidation of the left lung. The heart showed nothing of note. The blood pressure was 140/100. Abdomen: The liver was enormously enlarged, extending as low as the iliac crest. The organ was hard and nodular.

Clinically there was no doubt that we were dealing with a malignant liver but we failed to realize that it was primary until this was revealed to us at autopsy.

The patient was admitted to Hotel Dieu on November 2, 1933, and died two days later. The symptoms and signs of bronchopneumonia and hepatic toxemia closed the clinical picture.

Autopsy by Dr. M. Couret: The body was that of a greatly emaciated, but normally developed white male, body length approximately 170 cm. Postmortem rigidity was only moderately marked. Lividity was present on the dependent parts. Pupils were equal, measuring 2 mm.

The abdominal cavity: on opening the abdomen about 300 c.c. of bloody turbid fluid with a few small blood clots was found. The peritoneum and the serous coat of the intestines were smooth and glistening. The omentum was curled over the stomach and transverse colon but was not adherent to any structure. There were no adhesions between the intestines and any other abdominal organs. The mesentery lymph nodes were not enlarged, though there were several enlarged nodes, retroperitoneal and especially in the region of the pancreas and liver. The appendix was retrocecal and resembled a thick cotton cord.

The thoracic cavity: both pleural cavities contained approximately 100 c.c. of slightly blood-tinged fluid. There were old adhesions of the apices of both lungs and a slight roughening of the pleura at the base of the right lung. The right lung showed marked anthracosis and a mottling with dark bluish red areas here and there throughout the lower lobe. On section the organ showed dark red and reddish gray areas that were markedly consolidated at the base of the organ. On pressure a large amount of red, frothy fluid came from the tissues not consolidated. The left lung had the same general appearance as the right excepting that there were no consolidated areas and a greater amount of red, frothy fluid came out on pressure. Both lungs showed old scars and calcified tubercles at their apices.

The pericardial cavity: this contained approximately 50 c.c. of clear straw colored fluid. There were no adhesions to the pericardium. The heart showed a slight milkiness of the epicardium and extensive tortuosity of the epicardial vessels. The heart muscle was of a dead leaf color and somewhat friable. The cavities of the organ were not examined, excepting the pulmonary artery which was opened in situ and only postmortem clots found. The heart is slightly larger than the average.

The liver was markedly enlarged, the border of the right lobe extending on a level with the crest of the ilium. The organ was of a light brown color and there was scattered throughout a large number of neoplasms, varying in size from a pea to a hen egg. The larger areas were markedly necrotic. The normal markings of the liver were present, the organ having a nutmeg appearance. The entire surface of the liver showed small petechial hemorrhages from which there was evidence that bleeding had occurred producing the hemorrhage found in the abdominal cavity.

The gallbladder was almost entirely obliterated by a mass of small stones, gritty material and inspissated bile. The wall was markedly thickened and the duct appeared almost completely occluded. The bladder was at its largest point not larger than a pencil. The common bile duct, however, was patulous. The spleen was of normal size, the capsule was gray and somewhat wrinkled. On section the pulp was of a light wine color and the normal markings indistinct.

The gastrointestinal canal: the stomach and intestines were carefully examined along their entire length and showed nothing of note, excepting petechial hemorrhages throughout the mucosa of the stomach which contained a moderate amount of "black vomit."

The pancreas was negative, though about it were several lymph nodes that were markedly enlarged and varied in appearance, and on section were firm in consistency.

The kidneys were of average size and, though each showed marked congestion of all vessels, no definite gross pathologic changes were found. The adrenals were negative and showed only moderate postmortem autolysis. The ureters were negative. The bladder was half filled with urine and showed nothing of note.

The vascular system was not disturbed.

The brain and spinal cord were not removed.

Anatomic Diagnoses: Carcinoma of the liver (primary); metastasis in adjacent lymph nodes; infarcts of the lung; capillary hemorrhage; cholelithiasis; chronic apical bilateral tuberculosis.

Microscopic Examination: The tumor of the liver with metastasis showed a carcinoma with alveoli containing round and moderately hexagonal cells. The cells varied in size and some contained larger and smaller nuclei. There was marked mitosis present. The type of cell suggested more probably the origin of the neoplasm. The surrounding liver cells showed different stages of degeneration and atrophy and there was some scattered thickening of the intima of some of the vessels especially of the portal tract. The ducts and gallbladder showed no evidences of tumor formation. There was considerable necrosis present in the larger tumor masses.

Diagnosis: Primary carcinoma of the liver (origin probably bile radicals); metastases in adjacent and surrounding lymph nodes.

Case 3. B. I., a white male of 70 years, Swede, a religious by profession, was admitted to Hotel Dieu on September 3, 1938, complaining of shortness of breath and general weakness. The present illness dated back three weeks. He had had a mild cough, fever, nausea and general weakness. Previous to present illness he claimed good health.

Past History: He had had measles, mumps, pertussis and pneumonia. He had never been operated on.

Family History: No tuberculosis, cancer, renal disease or diabetes.

Physical Examination: The patient was a well developed and nourished white male. Mentality was normal. He was dyspneic. The skin was icteroid. The glands and reflexes were normal. There were large varicose veins of the left leg. Pupils were equal and reacted to light and accommodation. Mouth: There were few teeth left and caries were present. Pyorrhea alveolaris was noted. The tongue and tonsils were negative. Chest: There was flatness over back of the chest from the level of the angle of the scapular downward. Both tactile and respiratory sounds were slightly diminished over this area. Heart was slightly enlarged and showed gallop rhythm. Peripheral arteries showed arteriosclerotic changes. Blood pressure, 130/80. Abdomen, no tenderness, rigidity or ascites. The liver was enormously enlarged, hard and the edge was irregular and extended more than a hand's breadth below the costal arch. The other organs were not palpable. The genitals were negative.

Laboratory Examinations: Urine—faint trace of albumin; many granular casts and many pus cells. Phenolsulphonephthalein test: 35 per cent first hour; 20 per cent second hour. Blood—total white count, 26,000; differential count: small lymphocytes, 11; neutrophiles, 89. Total red count: 3,590,000. Hemoglobin, 70 per cent Wassermann test negative.

X-ray Examinations: Chest: lungs were normal; heart and aorta were normal; considerable elevation of the right diaphragm suggesting subdiaphragmatic abscess. Gastrointestinal tract; esophagus, negative; stomach showed pressure to left from the mid line; irregular filling defect of the greater curvature of the pars media; duodenum filled and emptied normally; cecum, not tender, movable; appendix was not seen; colon was irregularly filled. Large hard tumor mass was palpated in the upper abdomen not connected with the stomach. Conclusion: Evidence of tumor of the liver and possibly of the greater curvature of the stomach (pars media).

Electrocardiogram: Q and Q_2 present; long P-R interval for heart rate of 100; diphasic P_3; inverted QRS in Lead III with notching towards apex; slurring R_1, R_2 and R_3; T-P interval short at times; nodal rhythm at times; P-R, 0.2 sec.; QRS, 0.08 sec. Rate: Auricular, 100; ventricular, 100. Rhythm, irregular at times. Definite evidence of myocardial disease.

Clinical Course: Patient's temperature reached 101.3° F. once. Most of the time the temperature was normal. The patient steadily and rapidly progressed to a fatal termination. The clinical course was characterized by weakness and increasing jaundice. He vomited several times in the last few days of his illness and the vomitus contained apparently nothing but normal gastric contents. He died eleven days after his admission to the hospital. There was no doubt in the minds of the attending surgeon and internist that they were dealing with a case of primary carcinoma of the liver. There was no history pointing to any malignancy of the stomach or amebic dysentery.

The treatment was symptomatic. The poor general condition of the patient, his advanced age, as well as the extensive pathologic involvement of the liver did not justify any surgical procedure. It was also felt that little good would result from deep x-ray therapy and so this was not used. It is regretted that an autopsy could not be secured.

SUMMARY AND CONCLUSION

1. A brief review of the literature has been made to show the incidence of primary carcinoma of the liver.
2. The etiology, pathology and clinical course of the disease have been discussed.
3. All our cases were in males.
4. The patients were old, 49, 70, 72 years of age.
5. All presented themselves for treatment, when the disease had progressed so far that cure was impossible, even had a correct diagnosis been made when they applied for treatment.
6. The diagnosis was made on the operating table in Case 1, at autopsy in Case 2, and at the bedside in Case 3.
7. A plea is made to aim at early diagnosis, because this is the only way that radical surgical treatment can be instituted with the hope that a cure may be obtained in some of the cases.

HUTCHINSON MEMORIAL CLINIC
New Orleans

Scientific Session conducted by the Department of Medicine, Dr. John H. Musser, presiding.

Peptic Ulcer in a Girl Fourteen Years of Age (Dr. Norton W. Voorhies): This little girl was first seen in the Clinic on November 10, 1938. She has been having localized epigastric pain for two years. The pain is sharp and sticking in character and occurs from one and one-half to two hours after meals. It is associated with nausea, belching and the passing of gas per rectum. The pain is relieved by the ingestion of food or sodium bicarbonate. During the past two months the pain has occurred daily and has frequently awakened her from sleep at night. There has been no vomiting. She has not observed blood in her stools. There has been a five pound loss in weight.

On review of the past medical history we learn that she had whooping cough at nine months, measles at three years and mumps at eleven years of age. Her tonsils were removed at the age of seven.

The patient's father and mother, aged 53 and 43, respectively, are living and well. Her three sisters are in good health. She has four brothers, one of whom had a perforated gastric ulcer at 17. There is no history of diabetes, tuberculosis or heart disease in the family.

On physical examination we find an intelligent white female of about 14 years of age. She is well nourished and of the asthenic habitus. The blood pressure is 115/75 and the pulse 84 per minute. Nothing abnormal is found on examination of the head and neck. The thorax is long and somewhat flattened antero-posteriorly. The heart is of normal size; no murmurs are heard. The lungs are clear on auscultation. The abdomen is scaphoid in type and tenderness is demonstrable on deep pressure in the epigastrum. Nothing abnormal is found on inspection of the external genitalia. The extremities are well developed.

The usual laboratory work was done. The red blood cell count is 4,230,000 with a hemoglobin of 80 per cent. The white blood cells number 10,240, with a differential count of 76 per cent neutrophiles, 21 per cent lymphocytes, and three per cent monocytes. The urinalysis and the Wassermann reaction are negative. Gastric analysis after an Ewald test meal showed a combined acidity of 78 and a free hydrochloric acid of 58 and a positive reaction for occult blood.

The patient was sent to radiology for a complete gastrointestinal study. Fluoroscopic as well as x-ray examination showed a deformity of the duodenal cap. The roentgenologist recommended that she return after a course of belladonna in order to rule out a functional spasm of the duodenum. She was given tincture of belladonna Mx three times a day for five days and then the examination was repeated. The second fluoroscopic and x-ray study showed the same duodenal deformity and also a six-hour retention of barium in the stomach.

This case is of unusual interest for two reasons: first, because it is one of chronic duodenal ulcer in a girl of 14 years of age and second because there is a history of ulcer in the immediate family.

I reviewed the literature and found that there were 31 cases of chronic duodenal ulcer and six of chronic gastric ulcer reported in children (14 years of age and below) from this country. The course of the illness is quite similar to that of the adult. The pathology is similar and as extensive. Children are as likely to have complications. Bleeding and pyloric obstruction occur and perforation is not uncommon. Fosheé reports 13 instances of perforation in 17 cases of gastric ulcer studied. The child responds well to medical and surgical treatment.

It is interesting to note that this child's brother had a perforated gastric ulcer. One is impressed on reading the literature with the high familial incidence of this disease. Riecker, after a study of 942 cases of duodenal ulcer, found a family history of ulcer in 13 per cent.

Situs Inversus Viscerum — Case Report (Dr. George E. Burch): F. F., a 22 year old negro male, was admitted to the Hutchinson Memorial Clinic on September 8, 1938, complaining of dyspnea and palpitation. The dyspnea was of the sighing type and was not related to exercise. It was most frequently associated with nervous tension and financial or marital difficulties. During these periods he would also suffer from palpitation, consisting of tachycardia or a "skipping" of a heart beat. He suffered from dyspepsia from time to time but as a whole the rest of the history was essentially irrelevant.

On physical examination it was found that the patient was normal in all respects except that he had the findings of situs inversus viscerum, the heart being on the right side, the hepatic dulness on the left and the stomach tympany on the right. Laboratory studies were made and found to be normal except the teleoroentgenogram of the heart, the gastrointestinal series and the electrocardiogram. The teleoroentgenogram showed the heart to be on the right side but otherwise normal and the gastrointestinal series showed the stomach and intestines to be reversed in position as found in situs inversus viscerum. The electrocardiogram presented the characteristic changes of dextrocardia.

The electrocardiogram in congenital dextrocardia of situs inversus viscerum is so characteristic that the diagnosis of dextrocardia can be ventured on that finding alone. In Lead I all complexes, P, QRS and T, are inverted. Lead II has the characteristics of the ordinary Lead III, while Lead III has the characteristics of the ordinary Lead II. The reading of the electrocardiogram is facilitated by reversing the normal electrode, viz., by placing the right arm electrode on the left arm and the left arm electrode on the right arm and then applying to the resulting tracings the rules and interpretations as exist for the regular electrocardiogram. Occasionally, one may erroneously suspect a dextrocardia from the electrocardiogram, when, because of a technical error, the arm electrodes are reversed when applied to a subject with a normal heart. Such errors should be ruled out before venturing a diagnosis of dextrocardia on the electrocardiographic findings.

Hypertension with Pigmentation (Dr. Julius Lane Wilson): This woman, a Jewess, is 42 years of age, single, and was admitted to the Clinic on November 28, 1938, complaining of pain in the right lower part of the abdomen. She has had recurrent attacks of pain in the lower abdomen for many years, and had appendectomy at Charity Hospital nine years ago for a so-called chronic appendix. The pain came back and she had it off and on ever since. For some time she has known that she had hypertension; in fact, since before the operation, and for six years she has noticed pigmentation of the skin which is not definitely related to exposure to the sun. There is no increased growth of the hair. She has had occasional precordial pain and cough, some shortness of breath, and has gained twenty pounds in the past five years. For a year or two she has noted some puffiness of the eyelids in the mornings and some swelling of the ankles in the evenings. She has had nocturia 1-2, but no hematuria. She has had headaches and epistaxis with menses, and has been on a "protein free" diet for several years.

The family history is irrelevant. She had measles and pertussis in childhood and "kidney trouble" for many years, with hypertension known for over nine years. Tonsillectomy was done at 26, and appendectomy at the age of 33. She had "influenza" six years ago. Menses have always been irregular and are now increasingly scanty.

She entered Touro in 1933, being treated in the clinic there for four or five years. At the time her complaint was pain in the legs. Her blood pressure on entry was 188/116, weight 81 pounds. At various times her blood pressure varied from 154/90 to 190/120. Four Wassermann tests were negative. They examined her blood, which showed: Phosphorus 2.5; calcium 10.2 in November, 1933; 8.6 in April, 1934; 10.5 in October, 1934. They took x-rays of her legs and reported, in May, 1934, a thickening of the cortex of tibia with rarifying osteitis of anterior surface, a small osteophyte being seen in the upper third of the tibia, suggestive of a possible luetic condition—hence the many Wassermann tests, which were negative. In May, 1936, another x-ray was made of the right tibia which showed a small bony prominence upon the medial aspect approximately two inches below the medial condyle, presenting somewhat the appearance of a flat exostosis. A dextrose tolerance test was made in 1934, 100 gm. of dextrose, showing 143 mg. (1 hr.), 117 (2 hrs.) and 115 (3 hrs.). In February, 1937, a P.S.P. test showed 40 per cent. In July, 1937, a Fishberg test showed 1010, 1012 and 1015. She discontinued going to the Touro Clinic in October, 1938, and then went to a private doctor who referred her to our clinic.

On November 28 she was admitted to our Clinic, at which time her temperature was normal, pulse 72, blood pressure 205/120, weight 101 pounds. Physical examination showed a short, dark woman, with ruddy, easily-flushed complexion. One was struck with the brownish pigmentation of the neck, chest, areolae and extremities. The hair on the head seemed to be quite normal; there was some hypertrichosis between the breasts and a male distribution of the pubic hair. There were no purple striae around the trunk or limbs. The thyroid was not enlarged. Fundi are negative except for shiny, thickened arterioles. The nose showed swelling of the turbinates almost entirely occluding meatus on left side. Occasional moist rales were noted at the bases of the lungs; the heart was not demonstrably enlarged; there were no murmurs; second aortic sound was increased. The abdomen was rather fat but not obese or pendulous. There was no pitting edema of the ankles. The laboratory work has been limited on account of the short time that she has been in the clinic. Her urine was acid, 1006, trace of albumin—one might call it a heavy trace; there was no glucose and microscopically it was normal; Wassermann was negative. Blood: red blood cells 4,950,000, hemoglobin 80 per cent, white blood cells 6,250, polys 73 per cent, large monos 3 per cent, small monos 24 per cent, NPN 41 mgm. per cent, globulin 3.08, albumin 3.58, total proteins 3.58. We did the blood proteins because she said that she had been on a protein free diet.

The diagnosis at Touro was: Obscure adrenal condition accompanied by hypertension; chronic osteitis of both tibiae, cause unknown. The diagnosis by her physician was: Chronic nephritis and menopausal syndrone. We were struck by the association of pigmentation and hypertension and the possibility that there might be some connection; apparently, they thought along the same line at Touro. She obviously has a kidney condition, probably nephrosclerosis and hypertension, but why the pigmentation? She does not present a very graphic picture of Cushing's syndrone, with no striking distribution of fat around the trunk nor purple striae, but she has in common with the syndrome hypertension and the tendency to gain weight and the osteoporosis. She has no amenorrhea, glycosuria, nor other factors that he describes. Personally, I have had no experience in adrenal tumors. I think that this is a distinct possibility which should be looked into further in this case.

Subacute Bacterial Endocarditis (Dr. Grace A. Goldsmith): Subacute bacterial endocarditis always presents an interesting problem. Early in the course of the disease, diagnosis may be extremely difficult. The prognosis is always grave and therapeusis remains a challenge to the clinician.

The patient I wish to discuss came to the Clinic on October 10, of this year, complaining of fever of four months' duration, weakness and weight loss. About June 15, 1938, he began to notice progressive fatigability. He consulted a physician who found that he was running fever varying between 99 and 100° every afternoon. He was hospitalized and remained in bed about five weeks, treatment consisting of the administration of sulfanilamide, which failed to help his condition. He returned home and, while able to be up and about, was too weak to do any work. He had lost approximately 30 pounds in weight from the time of onset of his illness until he appeared at the clinic. There were no symptoms referable to any specific organ or system of the body with but one exception. On three occasions he had some rather unusual skin manifestations, two of the lesions appearing on the arms and one on the foot. The lesions were red, elevated and very painful, measured about an inch in diameter, lasted only a few days, and disappeared completely without scarring. The only other symptom was dyspnea on exertion, which was not a new complaint. At eleven years of age, the patient had tonsillitis and fever of one month's duration, diagnosed rheumatic fever with cardiac involvement. Since then, it has been necessary for him to limit physical activity considerably. The family history was interesting in that the patient's father died of pericarditis at the age of 42. His mother and one brother are said to have heart disease but the type is unknown.

Physical examination at the time of admission to this Clinic showed a tall, thin young man 23 years of age who appeared somewhat undernourished. His temperature was 99°, the pulse rate was normal and the blood pressure was 112/70. The skin was slightly pale, but a very careful search failed to reveal petechiae or evidence of the lesions noted in the history. There were no hemorrhages in the retina. There was no lymphadenopathy. The lungs were normal. The heart seemed to be slightly enlarged and a harsh presystolic and systolic murmur were heard in the mitral area. The mitral first sound was loud and the pulmonic second sound accentuated. Examination of the abdomen failed to reveal any abnormalities. The spleen was not enlarged. The extremities were entirely normal. There was no clubbing of the fingers. In spite of the paucity of positive findings, a tentative diagnosis of subacute bacterial endocarditis was made in view of the evidence of rheumatic heart disease with mitral stenosis, fever of four months' duration, and loss of weight. Many other diagnostic possibilities warranted consideration. The condition might have been active rheumatic fever, undulant fever, or some other infection plus rheumatic heart disease. He might have had a disease of the blood or an anemia secondary to a malarial infection.

Laboratory findings showed no abnormality of the blood except a mild secondary anemia. White cells numbered eleven thousand, which is about what one might except if he had subacute bacterial endocarditis. No large endothelial leukocytes, which are occasionally found in this condition, were seen. An x-ray of the chest showed that the size of the heart was about at the upper limits of normal; fluoroscopic examination failed to reveal any enlargement of the left auricle. Urinalysis was normal. The Wassermann reaction and the agglutination test for undulant fever were both negative. A non-hemolytic streptococcus was found on blood culture. The electrocardiogram was very interesting, showing an elevation of the S-T segment with inversion of the T-wave in Leads II and III. These changes were consistent with an old posterior infarction of the heart, but were more likely due to a toxic or infectious process. Embolism of the coronary arteries is extremely rare and there were no symptoms of coronary occlusion.

The patient was hospitalized at Touro and, while there, developed a number of petechiae in the buccal mucous membrane, particularly on the hard palate. The temperature ranged from 99° to 101°. The urine was examined frequently but no red blood cells were ever found. Blood cultures were positive on several occasions for Streptococcus viridans. He received two blood transfusions with some subjective improvement after the first but none after the second. He was also given sulfanilamide but in small doses only as he exhibited intolerance to large amounts. It is unlikely that benefit would ensue from the use of this drug since it has not been shown either in vitro or in vivo to be efficacious against Streptococcus viridans. A new pyridine derivative of sulfanilamide gives promise of being active against this microorganism and may be worthy of trial. Although this patient has been shown to have a subacute bacterial endocarditis, he has had few embolic phenomena. Petechiae are believed by some to be due to toxic damage to the capillaries rather than to emboli. Moreover these lesions have appeared only in the mouth. The patient has not had pain in the region of the spleen nor has that organ been palpable. There has been no evidence of emboli to the kidney, no tender fingers and toes, no clubbing of the fingers. In spite of few physical findings, the disease has been progressing rapidly and unfavorably. The prognosis in subacute bacterial endocarditis is grave, the mortality, according to Libman, being about 97 per cent. In occasional instances spontaneous recovery occurs. A few individuals become bacterial free and die of the cardiac or renal damage resulting from the infection.

Hepatomegaly and Diarrhea (Dr. Louis K. Levy): This patient, a 46 year old married woman, came to the clinic with the complaint of diarrhea. About four months ago, after having been in apparently perfect health, there was the sudden onset of diarrhea, which consisted of the passage of 10 to 14 stools per day. There is no history of fever or chills nausea or vomiting. During the entire time there has never been any period of constipation and the severity of the diarrhea has remained unchanged since the onset. On several occasions tarry stools have been noted and on two occasions the stool contained streaks of gross blood. During her illness the patient's appetite has been poor and she has lost some weight, the exact amount not being known, but apparently the weight loss has been slight. Pain of any description has not been present.

Examination reveals a well developed, well nourished, white female. The temperature and blood pressure readings are normal. There is no abnormal pigmentation of the skin, and the buccal mucosa reveals no stomatitis or atrophic changes. The sclerae show no evidence of icterus. The chest is clear. The upper margin of liver dulness is not distorted (also proved by x-ray examination). The liver edge is palpable just beneath the costal margin. The edge is smooth, not firm to the degree of hardness, and not tender. There is no tenderness on tapping over the lower right chest wall. The spleen is not palpable and there is no abdominal tenderness. On vaginal examination a hard, nodular, fixed mass, which is about the size of a large pecan, is palpable in the posterior fornix. On rectal examination some diminution of the pliability of the rectal mucosa is noted 4 cm. from the anus on the anterior rectal wall at the point where the cul-de-sac mass can be palpated. The proctoscope can be introduced with ease and the area of abnormal rectal mucosa is seen to be ischemic, hypertrophied, and contains within its extent a shallow ulcer 1 cm. in diameter which does not bleed. Reflexes are normal. Laboratory findings reveal negative blood Wassermann, normal urine, a very slight secondary anemia, and a normal white count. Several stool examinations reveal no pus, parasites, gross blood or mucus, or tubercle bacilli. Gastric analysis reveals free HCl of 0° and total acidity of eight.

In presenting the discussion on this case, I wish to bring to your attention the possible etiologic agents of the syndrome of hepatomegaly and diarrhea occurring in individuals in good nutritional state. I regret that, due to unforeseen difficulties, this case has not been completely worked up and a definite diagnosis cannot as yet be made.

Amebic dysentery with complicating hepatic abscess must be considered, but the absence of parasites in the feces, the absence of liver or thoracic wall tenderness, and the lack of evidence of the usual toxemia are against this diagnosis. Bacillary dysentery when producing this syndrome is usually accompanied by multiple pyemic liver abscesses with resulting marked toxemia. Pernicious anemia has reached the stage where the neurologic changes take place by the time diarrhea makes its appearance, and also buccal mucosa changes are present as a rule at this stage. When this syndrome appears in tuberculosis we think of a miliary affair with its marked toxemia. In cirrhosis of the liver diarrhea may be an initial manifestation but it is usually associated with swelling of the abdomen and legs. Also in cirrhosis light jaundice is the rule; the spleen is usually enlarged, and, lacking in this case, commonly there is a history of alcoholism. My tentative diagnosis is malignancy of the left side of the colon, there being no findings present in this case against this diagnosis. However, before such, or any diagnosis can be made, a gastrointestinal series, barium enema, stool culture, and, by all means, a biopsy of the diseased area of rectal mucosa should be done. Finally, if all findings are negative, I feel that a laparotomy is definitely indicated due to the presence of the mass in the cul-de-sac.

Jaundice (Dr. Adolph Ogard): Relating the patient's history only as it seems relevant to the present illness, we have here a 29 year old colored housewife who for approximately three years has had vague intermittent epigastric discomfort, usually occurring shortly after meals, occasionally associated with nausea, and usually being relieved by taking a small amount of sodium bicarbonate which she states produces the emesis necessary for relief. For eight or ten years she has noted a marked intolerance to fatty foods and associates their ingestion with flatulence, belching, and sometimes with nausea and vomiting. She had a gastrointestinal series in July, 1935, which showed no abnormalities.

Since that time, she has been attending several clinics for a number of conditions which are not related to the present illness that began on November 18, 1938, with the onset of generalized itching of the skin, without any associated skin eruption. One or two days previously she developed a common cold which persists at this time. There was a slight degree of anorexia and malaise. Two days later she noticed the onset of nausea immediately after meals, shortly afterwards developing an epigastric pain which was at first dull in character, localized in the epigastrium, but which became stabbing and radiated to both sides of the upper abdomen, and on one occasion to the right shoulder. Epigastric symptoms did not persist with any degree of severity more than 24 hours. Four days following the onset of symptoms she noticed that her skin and sclerae were yellow, her urine dark in color, and three days later that her stools were lighter in color than usual. There has been no change in bowel movements as regards frequency. She had no fever during the present illness save on one occasion in the clinic on November 29 when it was 99.8°.

Complete physical examination on December 1 was entirely negative except for an icteric tint to the skin and sclerae and some papillary atrophy along the tongue margins. Abdominal examination showed no tenderness, guarding, or palpable viscera. Her subjective symptoms have not been severe at any time but mild malaise and anorexia have persisted to the present time. Stools are becoming darker in color; urine remains dark, and the icterus has receded. She was advised to rest in bed, take a high carbohydrate, low fat, low protein diet, and has been taking a teaspoon of sodium and phosphate b.i.d. as a saline purgative. There is no history of the use of drugs. She had lost eight pounds in weight during the past two years. The following laboratory findings were noted: Red blood cells 5,000,000, white blood cells 5,500, polychromatophilia 68 per cent, eosinophiles

2 per cent, small monos 30 per cent; icterus index on November 29, 50; December 1, 50; December 5, 35; December 7, 30; hemoglobin 78.8 per cent Newcomer, mean corpuscular volume 82, reticulocytes 0.2 per cent; on November 29, urine positive for bilirubin (foam test) and December 5 positive for urobilin but not for bilirubin (chemically); Wassermann negative. Stool examination shows no abnormalities. On November 22 she had a gallbladder visualization by the oral method, which failed to visualize the gallbladder.

The differential diagnosis or causes of jaundice may be considered under three main divisions: (1) Excessive red blood cell destruction giving rise to more bilirubin than even a normal liver can excrete, such as occurs in pernicious anemia, sickle-cell anemia, congenital hemolytic anemia, paroxysmal hemoglobinuria, mismatched transfusion and phenylhydrazine poisoning, such as may also occur in lobar pneumonia, hemolytic septicemias, malaria and blackwater fever. The history of this patient and the normal blood picture rule out such a possibility in this instance. (2) Occlusion of the bile ducts, small or large, giving rise to regurgitation of bilirubin into the lymphatics and blood stream (a) from pancreatic or biliary calculi. The mildness of symptoms, lack of history of previous colic, slow onset of jaundice after what may be interpreted as colic, age of the patient, and the absence of enlargement of the liver which often occurs with acute obstruction, tend to rule out the diagnosis in this case; (b) obstruction from parasitic plugging is pretty well ruled out by the negative stool examination; (c) obstruction from scarring as may occur in luetic hepatitis or chronic cholangitis—ruled out by transient nature of jaundice and negative history of lues with negative Kahn; (d) obstruction from neoplasm, primary or secondary in the liver or biliary tract or from the external pressure of a neoplastic growth; jaundice is transient and not progressive, with a relatively small amount of weight loss and no anemia; with inability to detect any abdominal tumor or to postulate any possible primary source. (3) A third cause of jaundice may be that from actual damage of the liver cells with inability of the cells to excrete bilirubin, with its resultant accumulation in the blood stream: (a) acute yellow atrophy; the symptoms are far too mild and there is no history of any possible etiology; (b) infectious or catarrhal jaundice: (1) due to spirochetal etiology—the mildness of symptoms rules this out; (2) epidemic infectious jaundice; there is no history of contact. A sporadic case of infectious jaundice of unknown etiology is the diganosis.

Favoring this diagnosis are: (a) Mild symptoms preceding and during transient jaundice; (b) age of patient; (c) low white count with normal distribution; (d) urobilinogenuria signifies impaired liver function; failure of gallbladder to visualize may also be due to this factor.

The future course of the disease will confirm or refute this conclusion.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR

January 3.	Board of Directors, Orleans Parish Medical Society, 8 p. m. Eye, Ear, Nose and Throat Hospital Staff, 8 p. m.
January 4.	Radio Talk, Orleans Parish Medical Society, 8:45 to 9 a. m., WDSU. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m. Hutchinson Memorial Clinic Staff, 8 p. m. Mercy Hospital Staff, 8 p. m.
January 5.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
January 9.	Orleans Parish Medical Society. Installation of Officers, 1939, 8 p. m.
January 10.	Eye, Ear, Nose and Throat Club, 8 p. m. New Orleans Hospital Council, I. C. R. R. Hospital, 8 p. m.
January 11.	Radio Talk, Orleans Parish Medical Society, 8:45 to 9 a. m., WDSU. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m. Touro Infirmary Staff, 8 p. m.
January 16.	Hotel Dieu Staff, 8 p. m.
January 17.	Charity Hospital Medical Staff, 8 p. m.
January 18.	Radio Talk, Orleans Parish Medical Society, 8:45 to 9 a. m., WDSU. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m. Charity Hospital Surgical Staff, 8 p. m.
January 19.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
January 20.	I. C. R. R. Hospital Staff, 12 noon. New Orleans Dispensary for Women and Children Staff, 8 p. m.
January 23.	Orleans Parish Medical Society, 8 p. m.
January 24.	Baptist Hospital Staff, 8 p. m.
January 25.	Radio Talk, Orleans Parish Medical Society, 8:45 to 9 a. m., WDSU. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.

French Hospital Staff, 8 p. m.
January 26. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
January 27. L. S. U. Faculty Club, 8 p. m.

During the month of December the society held one meeting, Monday, December 12. The second meeting was dispensed with because of Christmas holidays. The thirteenth annual Stanford E. Chaille Memorial Oration was delivered Monday, December 12, by Dr. Porter P. Vinson, Professor of Bronchoscopy and Esophagoscopy, Medical College of Virginia, Richmond, whose subject was "Aids in the Early Diagnosis of Primary Bronchial Malignancy."

This meeting also served as the annual memorial meeting in respect to the members of the society who passed on during the year. The following names were read out by the secretary:

IN MEMORIAM

Dr. Charles A. Wallbillich	February 10, 1938
Dr. Earl A. Hogan	March 16, 1938
Dr. Caroline Mims	May 8, 1938
Dr. Frederick L. Fenno	July 20, 1938
Dr. Robert H. Potts	August 22, 1938
Dr. Albert S. Yenni	October 1, 1938
Dr. Louis A. Meraux	October 6, 1938
Dr. Lionel L. Cazenavette	October 15, 1938
Dr. J. Raymond Hume	October 29, 1938
Dr. William H. Seemann	November 19, 1938

Since the meeting Dr. John Signorelli died, December 13, 1938.

The annual election of officers was held Saturday, December 10. The following doctors were elected to serve for 1939: President: Dr. Cassius L. Peacock; first vice-president: Dr. Edmund L. Leckert; second vice-president: Dr. Lucien A. Fortier; third vice-president: Dr. Andrew V. Friedrichs; secretary: Dr. Gilbert C. Anderson; treasurer: Dr. Edwin H. Lawson; librarian: Dr. Donovan C. Browne. Additional members of the Board of Directors are Drs. Henry B. Alsobrook, George H. Hauser and Shirley C. Lyons.

On Saturday, December 10, 1938, the annual dinner of the society was held at 7 p. m. at Arnaud's. It is with regret that we report a very poor attendance at this function.

NEW ITEMS

Dr. Lucien A. LeDoux was appointed Councilor from Louisiana for the Southern Medical Association for a term of five years. Dr. LeDoux succeeds Dr. Arthur A. Herold whose term of office expired.

The following members have been named on various sections of the Southern Medical Association: Dr. Elizabeth Bass, Chairman of Section on Pathology; Dr. Merrill Beck, Secretary of the Section on Anesthesia; Dr. Ernest Carroll Faust was re-elected Secretary of the American Academy of Tropical Medicine; Dr. J. W. Reddoch, Secretary of the Section on Obstetrics; and Dr. Theodore Watters, Secretary of the Section on Neurology and Psychiatry.

Members appointed to serve on the board of the Guidance Center of the New Orleans Institute of Mental Hygiene are Dr. Rigney D'Aunoy, Louisiana State University Medical School, Dr. Frank R. Gomila, by Mayor Maestri, and Dr. John H. Musser, Tulane University School of Medicine.

Dr. John T. O'Ferrall was appointed a member of the Orthopedic Council of the Committee for the Celebration of the President's Birthday for the National Foundation for Infantile Paralysis.

Dr. George Hauser has been appointed as city bacteriologist in the position made vacant by the death of Dr. William H. Seemann.

Dr. George F. Roeling was appointed Superintendent of the City Hospital for Mental Diseases to fill the vacancy caused by the death of Dr. L. L. Cazenavette.

Dr. Ansel M. Caine has been elected a member of the Board of Directors of the American Society of Anesthetists for three years and has been elected an associate member of the Examining Board of the Fellowship Committee of the American Society of Anesthetists for six years.

Drs. Isidore Cohn, I. Mims Gage, Ambrose H. Storck, Joseph A. Danna, Alton Ochsner, James D. Rives, Curtis H. Tyrone and Roy W. Wright attended the meeting of the Southern Surgical Association at White Sulphur Springs, West Virginia, December 6-8.

Dr. John H. Musser attended the meeting of the American Council on Medical Education and Hospitals of the A. M. A., December 4, in Chicago.

The Graduate School of Medicine of the Louisiana State University met December 3-4 in Lafayette in the new Charity Hospital. This is the first program of a series to be given throughout the state. Dr. James T. Nix, Dean of the Graduate School, and Dr. P. H. Griffeth, Director of the General Extension Division of the University, are cooperating in this activity. On December 2-3, the following members presented papers: Drs. Charles Bloom, Charles Bahn, John F. Dicks, Rigney

D'Aunoy, Val H. Fuchs, James K. Howles, Daniel N. Silverman, Thomas B. Sellers and Henry W. E. Walther.

Dr. William Harvey Perkins succeeds the late Dr. William H. Seemann as President of the Tuberculosis and Public Health Association of Louisiana.

The following doctors were elected to membership during December: Active: Drs. Wallace C. Beil, Attilio V. Filizola, Frank R. Gomila, Jr., Richard T. Stephenson, and Carl N. Wahl. Interns: Drs. Alice E. Baker, Robert N. Caylor, Homer J. Dupuy, Jr., Frances Evans, Anthony Failla, John M. Lyons, Jacques A. Magne, Edward W. Nelson, Roland F. Phillips, Joseph A. Sabatier, Jr., Maurice E. St. Martin, John C. Suares, Joe D. Talbot, Bertha N. Wexler, John A. White, Jr., and Lawrence McC. Williamson.

Dr. Lucien A. Fortier attended the meeting of the Radiological Society of North America in Pittsburgh, November 27-December 3.

Dr. Leon J. Menville attended the meeting of the medical staff of the Baptist Hospital at Birmingham, December 13-14.

Drs. Albert E. Casey, Manuel Gardberg and Samuel B. Nadler read papers before the Southern Section of the Society for Experimental Biology and Medicine, December 16.

Drs. Neal Owens and Thomas B. Sellers were guest speakers before the Tri-County Medical Society, December 13, at Hazelhurst.

Drs. Edward L. King, Maxwell E. Lapham and Alton Ochsner addressed the Issaquena-Sharkey-Warren Counties Medical Society in Vicksburg, December 13. Dr. Lapham also addressed the third annual meeting of the Mississippi Public Health Association at Jackson, December 8-9.

Drs. Eugene B. Vickery and William A. Reed attended the meeting of the Southeastern Branch of the American Urological Association at Louisville, December 3.

The following officers of the New Orleans Urological Society were elected: Dr. Monroe Wolf, chairman; Dr. Hugh T. Beacham, vice-chairman, and Dr. James S. Davidson, secretary-treasurer.

Drs. Edwin H. Lawson, Shirley C. Lyons and Julius L. Wilson attended the meeting of the Southeastern Mississippi Medical Society in Hattiesburg, December 8-9.

Dr. Warren H. Hebert addressed the Proctology Society of the School of Medicine, University of Pennsylvania, Philadelphia.

TREASURER'S REPORT

Actual book balance 10/31/38	$3,470.27
December credits	774.56
Total credits	$4,244.83
December expenditures	608.55
Actual book balance 11/30/38	$3,636.28

LIBRARIAN'S REPORT

During November, 76 volumes have been added to the Library. Of these 29 were received by gift, 32 by binding and 15 from the New Orleans Medical and Surgical Journal. Titles of recent date are listed below.

The Library has loaned to doctors during November, 1145 books and journals, or more than two to each member of the Society. In addition, 888 books have been loaned to students for overnight use, making a total of 2,033 for the month. These figures do not include the great use of books and journals within the Reading Rooms.

Members of the staff have collected material on the following subjects at the request of physicians:

Arteriography
Socialized medicine
Herpetic keratitis
Bilateral foreign bodies in the tracheal tree
Treatment of pellagra with nicotinic acid
Gastroscopy
State medicine
Theophyllin in bronchial asthma
Relationship between diseases of the mouth and diseases of the chest
Dentritic keratitis

An exhibit on the History of Blood Transfusion has been prepared and has attracted many visitors to the History Room of the Library.

NEW BOOKS

Assn. for Research in Nervous and Mental Diseases: Acute Epidemic Encephalitis, 1931.

Assn. for Research in Nervous and Mental Diseases: Schizophrenia, 1931.

Abt, I. A., ed.: Yearbook of Pediatrics, 1930-1931.

American College of Physicians: Directory 1933, 1935, 1937.

Colorado State Board of Health: Cancer, 1938.

Harvey Society: Harvey Lectures, 1938.

Karsner, H. T.: Human Pathology, 1938.

Blacklock, D. B.: Guide to Human Parasitology, 1938.

Bentley, A. O.: Textbook of Pharmaceutics, 1937.

Burke, R. M.: Historical Chronology of Tuberculosis, 1938.

Henderson, Yandell: Adventures in Respiration, 1938.

Castellani, Aldo: Climate and Acclimatization, 1938.

Schlanser, A. E.: Practical Otology, Rhinology and Laryngology, 1938.

Henle, Jacob: On Miasmata and Contagia, 1938.

Crothers, Bronson: Pediatrician in Search of Mental Hygiene, 1937.

Mead, K. C. H.: History of Women in Medicine, 1938.

Behan, R. J.: Cancer, 1938.

Hegner, Robert: Big Fleas Have Little Fleas, 1938.

Walton, R. P.: Marihuana, 1938.

Betterman, Amos: Diary for Years 1868, 1873, 1893, 1909-10, 1938.

Gilbert C. Anderson, M. D.,
Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

Louisiana State Medical Society	April 24-26, 1939	Alexandria.
New Orleans Graduate Medical Assembly	February 6-9, 1939	New Orleans.

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

District	Date	Place
Second District	Third Thursday of every month	
Parish	**Date**	**Place**
East Baton Rouge	Second Wednesday of every month	Baton Rouge.
East and West Feliciana	First Wednesday in February	Jackson.
Orleans	Second and fourth Monday of every month	New Orleans.
Pointe Coupee	First Tuesday in March	
Sabine	First Wednesday of every month	

NOTICE

On account of financial difficulties, the firm that was printing the New Orleans Medical and Surgical Journal was obliged to go into bankruptcy. This untoward event will disturb somewhat the coming out of the Journal this month. It has been necessary to make a sudden change because no information had been given us concerning the financial troubles that the firm was having. Consequently, the material that was set up had to be entirely reset and, because of the unfamiliarity of the new printers with the job, bringing out the Journal on the first day of the month very necessarily has been delayed.

In addition to this dilemma of delay, it has been necessary to change to a certain extent the font and format. These changes have been restricted to a minimum so as not to cause a break in the typography of the present volume.

In the hurry of getting out the December issue of the Journal, in order to get it out of the printer's hands before they were taken over by the courts, a few copies have been misbound. If any of the readers find that their number of the Journal has this fault, we will be glad to exchange it for one that has been properly bound.

SECOND DISTRICT MEDICAL SOCIETY

The members of the Second District Medical Society were guests of a number of New Orleans physicians at a banquet held at the St. Charles Hotel on December 8. Dr. C. L. Peacock was the toastmaster and accredited himself splendidly. Dr. J. E. Clayton, of Norco, is president, and Dr. Fred S. Herrin, of Destrehan, is secretary-treasurer of the society.

The society had its beginning with four members, who met in Hahnville a few years ago, when Dr. D. N. Silverman, the Councilor for the Second District, Dr. P. T. Talbot, secretary-treasurer of the Louisiana State Medical Society, and Dr. Leon J. Menville, past-president of the Louisiana State Medical Society, founded the organization. It has now grown to a society of over thirty members who meet regularly once a month at the homes of its various members. Socialized medicine was discussed freely by several of the physicians, which resulted in a better understanding of this topic of momentous importance.

Fred S. Herrin, M. D., Sec.

BI-PARISH MEDICAL SOCIETY

The Bi-Parish Medical Society was called to order on December 7, 1938 by the president in the Rist Hotel. Visiting guests for the evening were Drs. P. T. Talbot and N. K. Edrington of New Orleans, and Mr. J. B. Rivers, representative of Mead Johnson and Company.

The election of officers for 1939 resulted as follows: Drs. T. H. Pargen, president; A. D. Long, vice-president; E. M. Toler, secretary-treasurer; E. M. Toler, delegate; E. M. Robards, alternate.

On motion, the following committee was appointed to draft resolutions relative to the death of Dr. J. B. Sewell, of Saint Francisville: Drs. E. M. Robards, C. S. Miller, and T. H. Pargen.

The scientific program was as follows: Medical pictures were demonstrated on the screen by Mr.

J. B. Rivers. Dr. P. T. Talbot read a most interesting and instructive paper on "Arthritis," which was discussed favorably by members present.

On motion a vote of thanks was extended to Dr. Talbot and Mr. Rivers for the excellent program that they presented to our society. A vote of thanks was given to Mr. and Mrs. August Rist for the preparation of the superb and delicious dinner.

On motion, Dr. S. S. Speer of Slaughter, Louisiana, was elected a member of our society.

The next meeting will be held at the East Louisiana Hospital, Jackson, the first Wednesday in February at 7:30 p. m.

E. M. Toler, M. D., Sec.

EAST BATON ROUGE PARISH MEDICAL SOCIETY

The regular monthly meeting of the East Baton Rouge Parish Medical Society was held Wednesday, December 14. The following officers for 1939 were elected: Drs. U. S. Hargrove, Baton Rouge, president; J. T. Lewis, Baton Rouge, vice-president; Cecil Lorio, Baton Rouge, secretary-treasurer; J. L. Beven, J. J. Noto, T. C. Paulsen, all of Baton Rouge, delegates.

Dr. I. S. Kahn of San Antonio, Texas, spoke on "Bronchial Asthma and Other Aspects of Allergy." This was a highly interesting and helpful paper, and was enthusiastically received.

U. S. Hargrove, M. D., Sec.

POINTE COUPEE PARISH MEDICAL SOCIETY

The regular meeting of the Pointe Coupee Parish Medical Society was held, December 8, at Morganza, with Dr. J. W. Plauche as host. The dentists of the parish were guests at the meeting and at supper.

A paper on "Infections of the Hand" was to have been presented by Dr. J. M. Mosely, but, in his absence, a round table discussion on the subject was instituted.

The following officers were elected for the year 1939: Drs. J. W. Plauche, Morganza, president; J. M. Mosely, Lakeland, vice-president; E. G. Durel, New Roads, secretary-treasurer; R. McG. Carruth, New Roads, delegate; F. F. Rougon, Oscar, alternate.

The next meeting will be held the first Tuesday in March.

E. G. Durel, M. D., Sec.

SABINE PARISH MEDICAL SOCIETY

A meeting of the Sabine Parish Medical Society was held December 8, 1938, at the Allen Sanitarium in Converse. The following officers were elected for the coming year: Drs. H. M. Prothro, Pleasant Hill, president; S. F. Fraser, Many, vice-president; O. L. Sanders, Converse, secretary-treasurer; L. H. Murdock, Converse, delegate; Dave Kaminsky, Fisher, alternate.

A program committee, consisting of Drs. R. B. Stille, Dave Kaminsky and O. L. Sanders, was appointed.

During the year 1939 meetings will be held the first Wednesday in each month.

O. L. Sanders, M. D., Sec.

RAPIDES PARISH MEDICAL SOCIETY

A regular meeting of the Rapides Parish Medical Society was held at the Baptist Hospital in Alexandria on December 5, 1938. The following officers were elected for 1939: Drs. J. T. Cappel, Alexandria, president; N. T. Simmonds, Alexandria, first vice-president; J. L. Woodall, Colfax, second vice-president; J. A. White, Jr., Alexandria, secretary-treasurer; J. A. White, Sr., H. O. Barker, M. H. Foster, all of Alexandria, delegates.

Dr. M. H. Foster presented a paper entitled "Solace for the Senescent." A film on lipiodol injection was also presented.

J. A. White, Jr., M. D., Sec.

RED RIVER PARISH MEDICAL SOCIETY OFFICERS, 1939

President: Dr. W. E. Wilkinson, Coushatta
Vice-President: Dr. W. B. Hunter, Coushatta
Secretary-Treasurer: Dr. W. W. Gahagan, Coushatta
Delegate: Dr. L. S. Huckabay, Harmon
Alternate: Dr. F. E. DePriest, Coushatta

TERREBONNE PARISH MEDICAL SOCIETY OFFICERS, 1939

President: Dr. S. F. Landry, Houma
Vice-President: Dr. M. F. Houston, Houma
Secretary-Treasurer: Dr. H. L. Haydel, Houma
Delegate: Dr. W. A. Ellender, Houma

WEBSTER PARISH MEDICAL SOCIETY OFFICERS, 1939

President: Dr. Wilkins McDade, Minden
Vice-President: Dr. S. M. Richardson, Minden
Secretary-Treasurer: Dr. B. A. Norman, Minden
Delegate: Dr. S. F. Martin, Minden

NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

From the unusual number of inquiries as well as enrollments which have been received at this early date, the impression is gained that the third annual New Orleans Graduate Medical Assembly, which will be held February 6-9, 1939, at the Roosevelt Hotel, will be the largest from the standpoint of attendance. It is also especially significant that a very considerable number of the inquiries have come from those who have attended previously. This has been especially gratifying to the sponsors of this intensive refresher course, because it indicates that the previous programs have supplied just what the busy practitioner has so long felt that he needed most.

The success of the previous assemblies has been an inspiration to introduce additional features, and this year eighteen physicians, each one an outstanding leader in his special field, will contribute one of the best planned courses yet attempted. The guest speakers who have been chosen are as follows: Dr. Harry J. Shields, Toronto, Anesthesia and Gas Therapy; Dr. N. C. Gilbert, Chicago, Cardiology; Dr. Clinton Welsh Lane, St. Louis, Dermatology; Dr. Chester M. Jones, Boston, Gastro-enterology; Dr. James C. Masson, Rochester, Gynecology; Dr. Paul H. Ringer, Asheville, and Dr. Cyrus C. Sturgis, Ann Arbor, Medicine; Dr. Franklin C. Ebaugh, Denver, Neuropsychiatry; Dr. M. Edward Davis, Chicago, Obstetrics; Dr. Harry S. Gradle, Chicago, Ophthalmology; Dr. A. Bruce Gill, Philadelphia, Orthopedics; Dr. William P. Wherry, Omaha, Otolaryngology; Dr. Wiley D. Forbus, Durham, Pathology; Dr. Frederick F. Tisdall, Toronto, Pediatrics; Dr. Arthur U. Desjardins, Rochester, Radiology; Dr. C. Gordon Heyd, New York City, and Dr. I. S. Ravdin, Philadelphia, Surgery; Dr. Robert Herbst, Chicago, Urology.

Each one of these nationally and internationally famous authorities will contribute liberally to the program and will be available for informal discussion of the problems of those who attend.

A small registration fee of $10.00, which covers all of the features, including four round table luncheons as well as the smoker, makes it possible to enjoy four full days of medical education, combined with recreation in the interesting City of New Orleans. Ample provision will be made for the entertainment of the ladies. A postal card addressed to the New Orleans Graduate Medical Assembly, 1430 Tulane Avenue, New Orleans, will bring interesting information concerning the program as well as other attractions.

AMERICAN COLLEGE OF SURGEONS

A sectional meeting of the American College of Surgeons will be held in Nashville, Tennessee, with headquarters at the Andrew Jackson Hotel, January 18-20, 1939. The following states will participate: Tennessee, Alabama, Arkansas, Georgia, Missouri, Florida, Mississippi, Louisiana, and Kentucky.

Dr. William D. Haggard is chairman and Dr. H. H. Shoulders is secretary of the Committee on Local Arrangements, which is making plans for an exceptionally interesting meeting.

Distinguished surgeons from all parts of the country who will address the sessions are Dr. Howard C. Naffziger, of San Francisco, President of the American College of Surgeons; Dr. George Crile, of Cleveland, Chairman of the Board of Regents; Dr. Irvin Abell, of Louisville, Vice-chairman of the Board of Regents and President of the American Medical Association; Dr. Alton Ochsner, Professor and Director, Department of Surgery, Tulane University, New Orleans; Dr. Frank E. Adair, New York City, Chairman of the Committee on Malignant Diseases, American College of Surgeons; Dr. Charles C. Higgins, Member of Staff, Cleveland Clinic; Dr. Frank K. Boland, Professor of Clinical Surgery, Emory University School of Medicine, Atlanta; Dr. James T. Nix, New Orleans, Professor of Surgery, Louisiana State University Medical Center; Dr. Fred W. Rankin, Surgeon, St. Joseph's and Good Samaritan hospitals, Lexington, Kentucky; and others.

Besides the operative and non-operative clinics in general surgery and the surgical specialties which will, as is customary at these sectional meetings, be held each of the three mornings in local hospitals, there will be on the afternoons of the first and second days a new feature—clinical assemblies. These will be held in the War Memorial. Four midday panel discussions will be held from 11:30 to 12:30 each of the three days. On Wednesday, January 18, the subjects will be: End-results of Gallbladder Surgery; Evaluation of Cancer Therapy; Thoracic Surgery, and Reduction in Appendicitis Mortality. On Thursday, January 19, the subjects will be: Hypertension and Surgery; Rehabilitation of Poor Surgical Risks; Abnormal Uterine Bleeding, and Urinary Obstruction and Infection. On the last day the subjects will be: Peptic Ulcer; Cancer; Toxemias of Pregnancy with Relation to Subsequent Health, and Interpretation of Surgical Lesions of the Colon and Rectum with Special Consideration of Their Ultimate Effect on Patients.

Hospital conferences and panel discussions on administrative and professional problems in hospitals will be held each day, and medical motion pictures covering general surgery and eye, ear, nose and throat surgery will also be shown daily. A Fracture Clinic is scheduled for Friday morning, January 20, and a Cancer Clinic for the afternoon of that day. The meeting will close with a session which will be open to the public on the subject of Conservation of Health.

Graduate training for surgery and the surgical specialties will be discussed at both the hospital and surgical sessions.

The medical profession at large, as well as hospital trustees, superintendents, nurses, and other hospital departmental personnel, will be interested in this meeting, at which there will be no registration charge. Members of the State Medical Association are most cordially invited to attend.

SPECIAL CONFERENCE

Dr. Lucien A. LeDoux represented the Journal Committee at the recent conference of presidents, presidents-elect, secretaries and editors of the state medical associations at the meeting of the Southern Medical Association in Oklahoma City on Tuesday, November 15. The purpose of this meeting was to acquaint informally the medical leaders of the different states with what the other was doing in regard to the many problems which confront the profession today, so that they could more or less adopt a common policy.

AMERICAN BOARD OF OPHTHALMOLOGY

The American Board of Ophthalmology announces an important change in its method of examination of candidates for the Board's certificate.

Examinations will be divided into two parts. Candidates whose applications are accepted will be required to pass a written examination which will be held simultaneously in various cities throughout the country, approximately 60 days prior to the date of the oral examination.

Examinations scheduled for 1939: Written: March 15 and August 5. Oral: St. Louis, May 15; Chicago, October 6.

Application forms and detailed information should be secured at once from Dr. John Green, secretary, 6830 Waterman Ave., St. Louis, Mo.

INTERNATIONAL COLLEGE OF SURGEONS

The officers of the International College of Surgeons are pleased to announce that the International College, in connection with the United States Chapter of that body, will hold its assembly in New York City at the Hotel Roosevelt, May 22-24, 1939.

Dr. Edward Frankel, Jr., of 217 East 17th St., New York City, has been appointed by the International officers as general chairman of this assembly. Any one interested in space for scientific exhibit will please communicate with him.

WORLD'S FAIR NEWS

For the first time in any international exposition, physicians and public health workers are to have at the New York World's Fair 1939 their own Professional Club, an incorporated organization, housed in a structure devoted to scientific and educational exhibits in their own field.

Membership in the Professional Club at present is open to accredited members of the American Medical Association and the American Public Health Association. It is expected that membership will be extended to include members of other professional groups.

MEDICAL COLLEGE OF VIRGINIA

The Medical College of Virginia, Richmond, celebrated Founders' Day marking the one hundred first anniversary of its founding on Thursday, December 1. Mr. Virginius Dabney, Editor of the Richmond Times-Dispatch, spoke on "Medicine in a Changing World." The exercises were preceded by academic procession of visitors, faculty, and members of the student body.

NATIONAL SOCIAL HYGIENE DAY

"Guard Against Syphilis" is the slogan of National Social Hygiene Day to be observed throughout America on February 1. The day will be marked by some 5,000 meetings to highlight present community campaigns against syphilis, according to Dr. Walter Clarke, executive director of the American Social Hygiene Association.

Evidences of interest in the forthcoming event, the third annual observance in the current attack on syphilis, point to a larger nation-wide demonstration than those of previous years, Dr. Clarke said. The association's offices in New York, as well as San Francisco, report increased activity and interest on the part of official and voluntary health and welfare agencies, civic groups, service clubs, women's organizations, churches, schools and upward of 1000 youth bodies.

A $15,000 gift to the National Anti-Syphilis Committee of the American Social Hygiene Association raises the total in its $500,000 appeal to $187,065 and will aid in promoting National Social Hygiene Day.

LAFOURCHE VALLEY MEDICAL SOCIETY

The Lafourche Valley Medical Society held its annual duck dinner at Raceland on December 21, 1938 at 7:00 p. m. The guest speakers were Drs. Leon J. Menville and J. K. Howles of New Orleans.

Dr. P. T. Talbot, Secretary-Treasurer of the State Medical Society, visited the fifth and eighth districts in the interest of the membership drive on December 2 and 3. He attended the meeting of the Fifth District Medical Society on December 2.

On December 7, Dr. Talbot was a guest at the Bi-Parish Medical Society meeting in Clinton, where he presented a paper on arthritis.

NEW MEMBERS

The following new members were admitted to the Louisiana State Medical Society during the month of December: Dr. P. P. LaBruyere, Jr., of Marrero; Dr. J. J. Massony, of Westwego, and Dr. J. A. Hendrick, Jr., of Shreveport.

Dr. Earl C. Smith, by request, addressed the Health Builders' Club on December 7, at their monthly meeting held at the New Orleans Hotel. The subject presented was "A Discussion of Appendicitis."

The International Postgraduate Medical Assembly of Southwest Texas, Inc. will be held in San Antonio on January 24-26, 1939.

The fourth annual Postgraduate Institute of the Philadelphia County Medical Society will be held in Philadelphia during the week beginning March 13, 1939. The subjects to be considered are those embraced by the terms blood dyscrasias and metabolic disorders.

The fifth annual meeting of the Mississippi Valley Medical Society will be held in Burlington, Iowa, September 27-29, 1939.

The Mississippi Valley Medical Society offers a cash prize of $100.00, a gold medal and a certificate of award for the best unpublished essay on a subject of interest and practical value to the general practitioner of medicine. Entrants must be members of the American Medical Association.

Dr. James B. Murphy, Chief of the Cancer Research Division of the Rockefeller Institute, New York, and Dr. Mont Rogers Reid, Director of Surgical Service of the Cincinnati General Hospital and Professor of Surgery at the University of Cincinnati, have been named as new members of the National Advisory Cancer Council for three-year terms.

The appointments were announced by Surgeon General Thomas Parran of the United States Public Health Service, who is ex-officio chairman of the Cancer Council. The new members of the council succeed Dr. Francis Carter Wood, Director of the Crocker Institute of Cancer Research, Columbia University, and Dr. James Ewing, Director of the Memorial Hospital, New York, both of whom were named as original members of the council on October 16, 1937.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The general oral, clinical and pathological examinations for all candidates, Part II Examinations (Groups A and B), will be conducted by the entire Board, meeting in St. Louis, Missouri, on May 15 and 16, 1939, immediately prior to the annual meeting of the American Medical Association. Notice of time and place of these examinations will be forwarded to all candidates well in advance of the examination dates.

Application for admission to Group A, May 1939, examinations must be on file in the secretary's office by March 15, 1939. Application blanks and booklets of information may be obtained from Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

HEALTH OF NEW ORLEANS

The Department of Commerce, Bureau of the Census, reports that for the week ending November 12, there were 142 deaths in the City of New Orleans, 98 occurring in the white and 44 in the negro race. This compares favorably with the week previous when 167 deaths occurred. Included in the report are 14 deaths in children under one year of age, divided practically equally between the two races. The next week, which came to a close on November 19, showed that there were 11 more deaths than the previous week, 4 less in the white and 15 more in the negro race. Infant deaths were only 10 this week, of whom three were white and seven negro. For the week ending November 26, 157 deaths were listed, 89 white and 68 negro. Infant deaths were 13 in number, divided seven white and six negro. For some inexplicable reason there was a very sharp increase in the number of people dying in New Orleans in the first part of December in the week which came to an end December 3. A greater number of deaths were listed for this week than has been noted in a long time, there being 124 white and 88 negro, for a total of 212. A part of this increase might be attributed to the increase in infant mortality which was 21.

INFECTIOUS DISEASES IN LOUISIANA

Dr. J. A. O'Hara, epidemiologist for the State of Louisiana, has furnished us with the weekly morbidity reports for the state, which contain the following summarized information: For the week ending November 19, the forty-sixth week of the year, as is customary syphilis led all reported disease, there being 176 cases recorded. Other diseases occurring in numbers greater than ten included 50 cases of measles, 36 of cancer, 28 each of pneumonia and malaria, 27 of pulmonary tuberculosis, 26 of scarlet fever, and 18 each of typhoid fever and diphtheria. The typhoid fever cases came for the most part from Caddo Parish, 4 cases, and Pointe Coupee, 5 cases. For the succeeding week, ending November 26, there were 109 cases of syphilis listed; 41 of measles, 38 of pulmonary tuberculosis, 28 of cancer, 24 of gonorrhea, 20 of diphtheria, 19 of scarlet fever, 16 of whooping cough and 12 of malaria. For the next week, which came to a close December 3, syphilis again was in the front with 112 cases. A mild epidemic of measles was present in the state, 83 cases being listed as contrasted with the five-year average of 5.6. Other diseases in double figures included 34 cases of pneumonia, 30 of diphtheria, 26 each of scarlet fever and whooping cough, 22 of pulmonary tuberculosis, 19 of cancer, and 11 of influenza. A case of typhus fever was reported from East Baton Rouge Parish and one of paratyphoid fever from Orleans. For the forty-ninth week of the year, there was a marked increase in the number of cases of syphilis, 242, and pneumonia, 65. Other diseases reported in double figures were 40 cases of gonorrhea, 26 of measles, 25 of pulmonary tuberculosis, 24 of cancer, 23 of scarlet fever, 13 of diphtheria and 12 of influenza. Of the rarer diseases, typhus fever was discovered in the Parish of Calcasieu and paratyphoid in Orleans.

JOHN SIGNORELLI

(1889-1938)

The innumerable friends and many patients of Doctor Signorelli were distressed to hear of his death on December 13, 1938. Doctor Signorelli had been sick for several weeks and a favorable outcome had been predicted, but a change for the worse resulted in his demise. New Orleans has lost one of its outstanding men in the passing of this physician. Professor of Pediatrics in the Louisiana State University Medical Center and recently appointed to succeed the late Doctor Fenno as Medical Director of the Orleans Parish School Board, Doctor Signorelli had accomplished much in his forty-nine years of life. A keen diagnostician, a therapeutist of skill and a sympathetic physician, he had an enviable reputation in his specialty in New Orleans and in Louisiana. Doctor Signorelli was active in the Orleans Parish and Louisiana State medical societies. He held many positions, elective and appointive, in these organizations. He was a man of cheerful disposition, smiling, bright and happy all the time. The medical profession and his grateful patients have lost a true friend and a good doctor.

WOMAN'S AUXILIARY

Louisiana State Medical Society

President—Mrs. Frederick G. Ellis, Shreveport.

President-elect—Mrs. S. M. Blackshear, New Orleans.

First Vice-President—Mrs. C. A. Martin, Welsh.

Second Vice-President—Mrs. A. G. McHenry, Monroe.

Third Vice-President—Mrs. D. C. McBride, Alexandria.

Fourth Vice-President—Mrs. A. F. Hebert, New Orleans.

Treasurer—Mrs. O. C. Rigby, Shreveport.

Recording Secretary—Mrs. D. T. Milam, Monroe.

Parliamentarian—Mrs. A. A. Herold, Shreveport.

Corresponding Secretary—Mrs. C. B. Erickson, Shreveport.

Historian—Mrs. W. P. Gardiner, New Orleans.

Mrs. Frederick G. Ellis, president, called the meeting of the Executive Board in Shreveport, November 22. Matters concerning the year book, finances, spring convention, and public relations were considered. Preceding the executive meeting Mrs. Ellis served the guests luncheon, using a charming seasonal motif in the buffet and table appointments. Members of the Board attending were Mesdames D. T. Milam, C. P. Gray and A. G. McHenry, of Monroe; H. O. Barker, D. C. McBride, S. J. Phillips, R. B. Wallace and L. D. Gremillion, of Alexandria; A. A. Herold, C. E. Rew, J. E. Heard, C. B. Erickson, R. T. Lucas, C. R. Gowen, R. L. Simmons, J. L. Scales, and O. C. Rigby, of Shreveport.

CADDO PARISH

It is an annual custom of the Woman's Auxiliary to the Shreveport Medical Society to have special entertainment during the Christmas holiday season to which the husbands of the members are invited. This year the party was in the form of a delightful dinner which was given at the Shrine Club on Cross Lake. The dinner tables were cleverly arranged in the form of a three branched candelabra, each white covered branch ending in a square table covered with red cellophane, representing the flame of the Christmas candle. Down the length of the tables were groups of nine candle holders burning red tapers, wreathed with silvered sprays of ivy, and at each end were accent points of red poinsettias. Silvered pine tips with golden cones and silvered bells tied with red moiré ribbon were also effectively used in the table decorations.

The guests of honor were the advisors of the auxiliary, Drs. R. T. Lucas, R. L. Simmons and T. M. Oxford; also Mrs. F. G. Ellis, president of the Louisiana State Auxiliary and Mrs. C. E. Rew, president of the Caddo Parish Auxiliary, Mrs. J. T. Crebbin, past president, and Mrs. C. P. Rutledge, president-elect. Mrs. E. L. Gill was the charming toastmistress. A skit was cleverly put on by Mesdames Frank Walke, D. R. McIntyre, Douglas Kerlin, C. R. Erickson, W. B. Heidorn, T. E. Strain, R. L. Simmons and E. L. Gill. Gifts were distributed among the guests by a most jovial Santa Claus who was later identified as Dr. Dorf Bean.

Mrs. Robert Simmons,
Press and Publicity Chairman.

CALCASIEU PARISH

A luncheon meeting was held at the Majestic Hotel on Friday, November 18, 1938. Plans were discussed for preparation of Thanksgiving baskets for the needy families of Lake Charles, which were gathered and distributed by auxiliary members.

Interesting pictures were presented by Mrs. Frank Gibson who recently made a tour of Alaska and the northwest.

The December meeting was held at the Bel Community Hall on Friday, December 19, 1938. The ladies were delighted to have with them Mrs. F. G. Ellis, of Shreveport, and Mrs. J. D. Frazer of DeRidder. Mrs. Ellis, who is state president, gave a very interesting and inspiring talk on auxiliary work over the State of Louisiana.

The Calcasieu Medical Auxiliary won over the American Legion Auxiliary in a Radio Quizology Contest. Members of the auxiliary are still active in the program, meeting the different auxiliaries of Calcasieu Parish.

Mrs. L. L. DiGiglia,
Press and Publicity Chairman.

Respectfully submitted,
Mrs. Robert T. Lucas,
Press and Publicity Chairman.

BOOK REVIEWS

Dr. Colwell's Daily Log for Physicians, 1939: Colwell Publishing Company, Champaign, Illinois. Price $6.00.

This volume provides in a compact and concise manner all the bookkeeping forms that are essential for keeping an accurate account of professional transactions. The forms are simple, brief, and comprehensive. They are easy to understand and require no previous knowledge of bookkeeping.

A page for each day of the month allows space for the names of patients seen, the services rendered, and whether cash was received or a charge is to be made. At the end of each month, a summary gives at a glance the day by day record of cash and charge transactions. There are also other forms for summarizing office expenses, narcotics dispensed, surgical operations, social security taxes, personal receipts and disbursements.

Dr. Colwell's Daily Log needs no commendation to those who have already used it. It is a time saver for the busy doctor who is his own bookkeeper and a means of securing accurate financial records for the doctor who is dependent upon clerical assistants to do his bookkeeping.

PHILIP H. JONES, JR., M. D.

Clinical Medicine in Practical Medicine: By C. P. Stewart, M. Sc. (Dunelm.), Ph. D. (Edin.), and D. M. Dunlop, B. A. (Oxon.), M. D., F. R. C. P. E. Baltimore, William Wood and Co., 1937. Pp. 372. Price $4.00.

This little book deals with the performance and interpretation of a group of chemical tests which are widely used today in the diagnosis of disease entities.

The chapters on glycosuria, cerebrospinal fluid and albuminuria, and tests of renal function are very thorough and of decidedly instructive value. This book as a whole brings nothing new to the field. To the student and general practitioner the information obtainable in any standard textbook might be of more practical value than that obtained through reading this book.

ALBERTO PRIETO, M. D.

Disinfection and Sterilization: By Ernest C. McCulloch, M. A., D. V. M., Ph. D. Philadelphia, Lea & Febiger, 1936. Pp. 525. Price $5.50.

This appears to be the first comprehensive treatise dealing with the fundamentals of disinfection and sterilization. It contains important information on the germicidal values of disinfectants and their effects on many species of micro-organisms, with chapters on water purification, sewage treatment and pasteurization.

It should be an ideal reference book for bacteriologists, public health workers and clinical pathologists.

J. R. KRIZ, M. D.

Principles and Practice of Obstetrics: By Joseph B. DeLee, A. M., M. D. Philadelphia, W. B. Saunders Company, 1938. Pp. 1211. Price $12.00.

The new seventh edition of the great textbook which has been so popular with practitioner and student has been thoroughly revised. The illustrations are excellent; those in color are vivid and command attention. Those plates on version, however, are still in need of revision. They are misleading.

The chapter on anesthesia and analgesia is given the space it deserves. It calls attention to the fact that the pain and discomfort of childbirth today can safely be relieved to a greater extent than formerly. Sulfanilamide in puerperal sepsis is well discussed: "The use of this drug has spread over the world with more than the usual rapidity, because in many cases its effect has been truly dramatic, but as always over-enthusiasm has resulted in failures, and worse, many complications and not a few deaths are coming to light." And so throughout the book frank suggestions based on sound judgment and experience are freely debated.

Labor, normal and abnormal, its management, course and treatment passes before you with almost vivid animation as you read and study these illustrations. I am glad to see Professor de Snoo's experiment given a page as it illustrates rotation in the mechanism of labor in occipital presentation. This mechanism is so clearly described that were all general practitioners who do obstetrics to study this chapter, a sudden decrease in maternal and fetal mortality would result.

The editor and his associates are due the highest praise for their accomplishment.

GEORGE A. MAYER, M. D.

The Vitamins and Their Clinical Application: By W. Stepp, M. D., D. Kuhnau, M. D., and H. Schroeder, M. D. Translated by Herman A. H. Bouman, M. D. Milwaukee, The Vitamin Products Co., 1938. Pp. 173. Price $4.50.

This is a manual which presents tersely the important facts about the vitamins. There is a short sketch of the history followed by the chemical discussion of the vitamin in question and then the usual vitamins are included—A, B, C, D, as well as E and H. Succeeding the general discussion of the vitamins, which takes some 106 pages, there is a chapter on vitamins and human nutrition, another on the daily requirements for man, and lastly one on the antagonism of the vitamins. All the information is summarized in the appendix which devotes from one to two pages to the functions, possible results of deficiency and the results of absence of the vitamin in question. There is a well selected bibliography. Altogether the book may be recommended most highly, not so much to the vitaminologist, whose knowledge of vitamins is extensive, but largely to the practicing physician who wants to know quickly more about vitamins than he knows at the present time.

J. H. Musser, M. D.

Aids to Histology: By Alexander Goodall, M. D., F. R. C. P. (Edin.). Baltimore, William Wood & Company, 1938. Pp. viii+151; figs. 26. Price $1.25.

This compend of histology, a volume in the "Students' Aid Series," was first published in 1911. Its treatment of the subject is cursory, in keeping with the usual compend style. There is a regrettable lack of evidence of the prevailing present-day emphasis on functional considerations, the material being almost entirely confined to bare description of histologic structure.

Harold Cummins, Ph. D.

Diseases of the Skin for Practitioners and Students: By George Clinton Andrews, A. B., M. D. Philadelphia, W. B. Saunders Co., 1938. Pp. 899. Price $10.00.

This text, an entirely revamped edition, is superior to its predecessor in so many instances that only a few can be designated in this short review. The chapters on roentgen rays, fungous diseases and tropical diseases are as complete as separate monographs. The addition of the latest known facts about vitamin deficiencies is concise. The chapters on hypertrophies and atrophies, lipoidoses, besides being instructive, are beautifully illustrated. The illustrations throughout this edition are selected with the greatest of care, portraying the usual, rather than the unusual, forms. The chapter on syphilis contains one hundred pages on the rational handling of the syphilitic. This is an excellent text for anyone interested in skin diseases whether student, general practitioner or specialist.

M. T. Van Studdiford, M. D.

The Biology of Arteriosclerosis: By M. C. Winternitz, M. D., R. M. Thomas, M. D., and P. M. LeCompte, M. D. Springfield, Illinois, Charles C. Thomas, 1938. Pp. 142. Price $4.00.

This small monograph is a beautifully illustrated study of the biology of arteriosclerosis. It is clear that the authors believe the lesions of arteriosclerosis are more than merely degenerative. The first part of the book consists of a study of the extent and functional significance of the vasa vasorum in the normal arteries. Their intricate and painstaking technic is described in detail. By the use of such methods, the authors found an extensive vascular network in normal blood vessels which they traced to three separate sources, namely the adventitia, the region of orifices of branches and directly from the lumen of the vessel. Furthermore, they found that the three origins for mural vessels and the same designs that result from their anastomoses not only are present but become greatly exaggerated in the diseased artery walls. They found that hemorrhage is but an exaggerated form of exudation and is common in the artery wall. It occurs in those locations which are the site of predilection of the arteriosclerotic lesions. In addition, they found that hemorrhages abound in those regions which are the site of origin of vasa in the normal arteries of man. From this, they predicate some relation between vascularity, hemorrhage and sclerosis.

There are, of course, a multiplicity of causes for hemorrhage which need not be mentioned here. While the authors do not consider hemorrhage and perhaps lesser exudations to be the only source of the materials that form atheroma, they are, nevertheless, potent contributing factors. The cause of arteriosclerosis is not to be found in a single factor. The pleomorphism of the process, its characteristic irregularity of distribution and rate of development are sufficient evidence of this.

In conclusion, the authors plead for an approach to this problem which, "based on recognition of the artery as a vascular or potentially vascular organ and therefore subject to the same pathologic processes to which other tissues are subject, may prove more fruitful than one in which lesions are regarded as primarily 'degenerative' or as the inevitable concomitants of age."

It would appear that any new approach to this subject is of the utmost importance even if it does nothing more than stimulate interest and research; therefore the reviewer recommends this volume to all those interested in arteriosclerosis.

Randolph Lyons, M. D.

Pediatric Surgery: By Edward C. Brenner, M. D. Philadelphia, Lea and Febiger, 1938. Pp. 843. Price $10.00.

According to his preface, it is the author's purpose, in response to the request of his students, "to present a volume neither encyclopedic nor compendial in type, which may be of practical value to those engaged in the study and practice of pediatric surgery." He goes on to say that "illustrations have been freely employed, and bibliographies and theoretical discussions omitted." In spite of the author's denial of such intentions, the book leans toward the compendial type: A wide variety of surgical conditions is discussed in its fifty-two chapters, even though fractures, dislocations, and other orthopedic problems have been omitted.

In some centers pediatric surgery has been accepted as a surgical specialty, although in most localities it is still handled by the general surgeon. There is no special reason why it should not be. The surgical problems of children are much the same as the surgical problems of adults. What the general surgeon does need, however, is advice as to how surgical diseases are exhibited in children, and wherein their symptoms, signs, and details of management differ in children and in adults.

All of this material is in this book, but its significance is somewhat impaired because it is almost buried in the details of conditions not peculiar to childhood. In other words, if the book had been made more compact it would probably be more useful for the purposes we have suggested.

The subject matter is so presented that it is interesting and easily read. This, and the tendency toward compendial presentation already noted, should make the book popular with the undergraduate student. The practicing physician, seeking help in problems peculiar to children, will wish for the bibliographies which have been omitted because many of the subjects presented require further elucidation before the recommendations made can be put into practice.

The author's associates are responsible for special chapters on special subjects. There are seven chapters on pediatric urology by C. G. Bandler and A. H. Milbert, and eight on neurologic surgery by J. E. Scharff. The chapter on the thorax by L. R. Davidson contains a particularly good discussion of empyema, as well as an excellent summary of the indications for and the methods used in collapse therapy. H. S. Vaughan has written the chapter of cleft lip and palate, and the description of operative procedures is very well done. Other special chapters include one on anesthesia by T. D. Buchanan, and one on blood transfusion by L. J. Unger.

The remaining chapters are by the author, and those on the colon, rectum, and anus should be singled out for special mention. The chapter on hernia contains much information useful to the general surgeon. Many authorities will disagree with the author on the conservative treatment he advocates for acute hematogenous osteomyelitis, though others will support him.

This book can be recommended to students not only for the knowledge of pediatric surgery they may derive from it, but also for the knowledge of general surgery they must inevitably secure from a book containing so many essential facts. The general surgeon whose knowledge of pediatric surgery is limited will find it a useful book for ready reference, though the more experienced surgeon will find in it little he does not already know. The author is to be commended for the emphasis he has placed on the importance of preoperative and postoperative care, and for his effort throughout the book to instill in his readers the maxim he has selected for his introduction, "In corpore pueri non est locus chirurgiae violentae."

The 293 engravings are in the main excellent.

Samuel A. Romano, M. D.

Practical Otology, Rhinology and Laryngology: By Adam Edward Schlanser, M. D. Philadelphia, Lea & Febiger, 1938. Pp. 315. Price $4.50.

This is a rather condensed textbook of 315 pages with information which is of value primarily to the beginner in otolaryngology, although there is much that will be of interest to the advanced student. The clinical side of the subject is emphasized and historical data, anatomy, physiology and detailed symptomatology have purposely been largely omitted for the sake of brevity. As the book represents Colonel Schlanser's years of army experience, it will be of particular value to the army medical officer.

H. L. Kearney, M. D.

A Pediatrician in Search of Mental Hygiene: By Bronson Crothers, M. D. New York, The Commonwealth Fund, 1937. Pp. 271. Price $2.00.

This volume is intelligently prepared by a pediatrician attached to the Harvard Medical School, likewise the Children's and Infants' Hospital in Boston, aside from his vast experience and opportunities afforded him to be conversant with mental hygiene and child guidance problems.

There are three parts: Part One deals with mental hygiene in the practice of medicine; Part Two deals with mental hygiene in the teaching of medicine; Part Three discusses "Towards Meeting the Pediatrician's Responsibility."

The volume is a plea for the proper intellectual fundamental approach to mental hygiene in pediatrics; likewise, a rebuke to the specialist who would thin out his medicine to the extent of attaching other medical entities under the guise of his chosen specialty. Well does he state that the pediatrician should not be a neuropsychiatrist, but does plead, however, that the pediatrician should understand full well the mechanisms and motivations which underly the unusual and bizarre reactions found in children who may become potential problem children or subjects for child guidance care.

This book should be collateral reading for the general practitioner, neuropsychiatrist, social worker, and the lay trained individual who is attempting to enter agencies dealing with an institute of human relations and children's problems.

Walter J. Otis, M. D.

Diseases of the Nose, Throat and Ear, Medical and Surgical: By William Lincoln Ballenger, M. D., F. A. C. S. 7th ed. rev. by Howard Charles Ballenger, M. D., F. A. C. S. Philadelphia, Lea and Febiger, 1938. Pp. 1030. Price $11.00.

It takes one back a good many years to remember the first edition of "Diseases of the Nose, Throat and Ear" by William Lincoln Ballenger in 1908. The continued popularity of this reference work is a deserved tribute to that illustrious otolaryngologist. Ten years after his death, December 21, 1915, the next (fifth) edition was published under the direction of Howard Charles Ballenger. The present (seventh) edition is the third revision by Howard Charles Ballenger.

While, in general, the form of the older work has been maintained, new chapters have been added on physical therapy in otolaryngology, deep neck infections and petrositis.

A separate chapter has been devoted to benign neoplasms of the nose, throat and larynx. Malignant neoplasms of the larynx, throat and nose have been combined into one chapter. In a strictly clinical reference work such as this, the reviewer prefers the older arrangement. The section on bronchoscopy has been ably revised by Gabriel Tucker and Chevalier L. Jackson.

One hesitates to criticize comparatively unimportant details in an otherwise splendid book, but typographical errors are annoying. Figure 289 is captioned "paralysis of the arytenoids," when paralysis of the arytenoideus is meant. Petrositis is so spelled in the preface and thereafter is spelled petrousitis. The syndrome of Tapia is called the syndrome of Topia.

H. L. Kearney, M. D.

A Textbook of Pharmaceutics: By Arthur Owen Bentley. Baltimore, Wm. Wood & Co., 1937. Pp. 1001. Price $5.00.

This volume is by its very nature not only a textbook but also a handbook. Because it is the collaborative effort of several British authors it shows the British approach to the problem of teaching pharmaceutics.

The inclusion of ample discussion of pharmaceutical history and chemical engineering practice in pharmaceutical manufacture enlarges the usefulness of the book. The sections containing these discussions confirm one's understanding of the essential dignity of the pharamaceutic art and sharpen his appreciation of the problems of large scale manufacture of drugs. The cuts and line drawings of chemical engineering tools are unusually clear. They portray instruments which are actually in use at the present time.

The authors display no inclination to relegate to a place of unimportance in the book difficult concepts which have arisen in the sciences upon which pharmaceutics is based. This represents, however, merely another phase of their implicit intention to make the book complete and dignified.

There is, of course, the usual routine treatment of standard topics in pharmaceutics according to the British viewpoint. Contemplation of the British procedures serves to intensify an intellectual "hands across the sea" attitude.

The reviewer is impressed by the very extensive treatment of pharmaceutical abbreviation. He is happy to know where he can find the meaning of that obscure abbreviation the next time it rears its ugly head.

This book cannot fail to be useful to American pharmacists, pharmacologists, and pharmaceutical chemists.

James C. Rice, M. D.

Materia Medica, Pharmacology and Therapeutics: By Walter Arthur Bastedo, Ph. M., M. D., Sc. D., F. A. C. P. Philadelphia, W. B. Saunders Company, 1937. Pp. 778. Price $6.50.

Drastic revision has brought this book into line with the most recent advances in pharmacology and the practice of medicine. Drugs such as acetyl choline, glycine, metrazol, sulfanilamide, vitamins, hormones, atabrine, cyclopropane, evipal, marihuana habit, toxic action of aminopyrine, toxic action of dinitrophenol for obesity, and carbon tetrachloride, are discussed fully. Practical pharmacy, and prescription writing are covered in essential outline.

The book is of particular value to practicing physicians, but will continue to be useful also for medical students.

Clyde Brooks, M. D.

Adventures in Respiration: By Yandell Henderson. Baltimore, The Williams and Wilkins Co., 1938. Pp. 316. Price $3.00.

Here in the compass of a small book is a brief story of the life work of a great scientist as told by himself. To Yandell Henderson and to the late John Scott Haldane of Oxford, to whose memory this work is dedicated, we owe, more than to any others, our knowledge of the respiratory apparatus. The facts are presented, with little theory or system, as a simple story of adventures, all pleasant in retrospect, but some filled with the anxious moments of an explorer in strange and uncharted regions.

The main theme of "The Adventures" is the problem of asphyxia. Shock, the failure of the circulation, the fallacy of asphyxial acidosis, the control of breathing, mountain sickness, carbon monoxide asphyxia, how breathing begins at birth, asphyxia and resuscitation of the newborn, postoperative depression, and the functional factor in pneumonia are the chief sub-themes used to show how important carbon dioxide is to well regulated and efficient respiration.

The style is delightful, clear, logical and forceful, characteristics all too uncommon in the writings of scientific men. The book is warmly recommended to clinicians, young and old.

Henry Laurens, Ph. D.

The Harvey Lectures, 1937-1938: Baltimore, The Williams and Wilkins Co., 1938. Pp. 275. Price $4.00.

This volume contains the lectures given during the last year under the auspices of the Harvey Society of New York and under the patronage of the New York Academy of Medicine. As the publication announcement sets forth "edited and illustrated for publication, the book provides a record of some of the most recent important research work by eight distinguished authorities."

The lectures include splendid, brief resumés of experiments on the nature of the visual process by Selig Hecht, the function of the lymphatic system by Cecil K. Drinker and the cortical representation of somatic sensibility by Philip Bard. Einar Lundsgaard presents data which throw doubt on the validity of the assumption that the aerobic metabolism of active muscles is a pure carbohydrate metabolism. The lecture by F. C. Koch on the chemistry and biology of male sex hormones is profusely illustrated with graphs and tables showing the interrelationships of the androgens with each other and with other hormones. The discussion of water metabolism by John P. Peters is an unusually lucid presentation of a difficult subject. Particularly timely and stimulating is the description by Wendell M. Stanley of his important and far-reaching experiments leading to the isolation of the tobacco mosaic virus and his discussion of virus proteins, and the account by Harry Goldblatt of his work on the induction of experimental hypertension by renal ischemia.

This small volume is highly recommended to those interested in keeping abreast of the developments occurring so rapidly on the various fronts of medicine.

H. S. Mayerson, Ph. D.

A History of Women in Medicine: By Kate Campbell Hurd-Mead, M. D. Haddam, Conn., The Haddam Press, 1938. Pp. 569. Price $6.00.

There is a legend in Israel that when the Lord contemplated the creation of Eve, after much deliberation, He decided to fashion her from Adam's rib in order that she might be modest and content, figuratively as well as literally, to conceal herself from public notice so that attention might not be diverted from her mate. And man wallowing in his egoism concluded that the woman was inferior mentally and physically. He did not know then, it is difficult for him to remember now, that the physical endurance and the mental capacity of woman is on a par with that of man. For years we have read histories of medicine and noted the notable achievements of men in the great unfolding of the drama of medicine from the dawn of history to the history of today's dawn. It has seldom occurred to us to ask the question,—what about the contribution of women to medicine? Granted that we have accepted the fact and are cognizant of the innumerable accomplishments and the tremendous achievements of the modern woman in medicine and the allied sciences, we remain dubious of what the woman of the past did to further the healing art. The fault, in great part, was due to the fact that history was written by men about men for men. Now, a new phenomenon has appeared on the horizon of medical history, a book by a woman and a physician about women and physicians for men and women, lay and professional. The viewpoint is novel, diverting and instructive. Here women stalk the stage and man is most often a mere prop. Truly one is stirred at the remarkable recital of Dr. Mead's "History of Women in Medicine." One can only wonder at the superiority of those women who had to fight superstition, bigotry and jealousy to gain and maintain their position in the face of what many men would have considered insurmountable obstacles. But the myth of the weaker sex is again exploded as the author repeats ad infinitum how women attained the heights. That this book will endure none can doubt. It is already a classic and it more than fulfills the requisites of the poet who said:

> "Books should to one of these four ends conduce
> For wisdom, piety, delight, or use."

In wisdom it abounds. Many years of effort went into its making. Travel and correspondence, world-wide in scope, helped to fashion it. Extensive reading and years of practice served to give it those elements that constitute the true landmarks of progress in medical literature. Every page reflects its piety. Imbued with the high purpose of the medical calling and feeling it her holy duty to proclaim the noble deeds of women in the fight against disease and death through the centuries, Dr. Mead writes in a strain that inadvertently labels the book as a sincere and true document and thus truly spiritual in nature. The delight to be derived from the perusal of this volume, is a matter of moment. Here is a book replete with medical lore to which all doctors must thrill. The status of medicines and drugs from primitive times to the close of the eighteenth century with the concomitant story of the social and economic, as well as the political and medical life cannot fail to afford sheer pleasure to the reader. Many curious facts from sources long forgotten are recalled in order that one may the better appraise the real value of the skill of medical women; the familiar male landmarks abound so that the reader may not lose himself in the hitherto little known or explored terrain of the feminine physician. Most interesting illustrations are interspersed among the pages.

Finally, the use of the book,—its value as a book of reference. Here one can only wonder at the persistence of the erudite scholar who for forty years labored to bring forth a book that at once establishes it as unique in the field of medical history even as it is the first pioneer effort in a most important subject. The facts are well authenticated and numerous documents and sources, so dear to the heart of the student, are an important part of the volume. It has been said that "there is no book so bad but something good may be found in it." I should like to paraphrase this by stating that there is no book so good but something bad may be found in it, and, briefly, I would remark that some authorities may find blemishes. If they exist I recognize them not and in my blissful ignorance I am happy not to be able to find the navel that bespeaks human imperfection. The author states that a second volume, which will bring her story to the present day, is forthcoming. It is bound to prove a welcome companion to a most worthy book. Truly one can say of Dr. Mead and her book that here are two great factors happily met: The labor is worthy of the laborer even as the laborer is worthy of the labor.

I. L. Robbins, M. D.

Climate and Acclimatization: By Sir Aldo Castellani, K. C. M. G., D. S. C., M. D., F. R. C. P., Count of Kisymaio. London, John Bale, Sons & Curnow, Ltd., 1938. Pp. 198. Price 10/.

This is an all-inclusive, pocket-sized book of concise lore on the effects of climate on man, especially on the white man in the tropics.

The Count of Kisymaio is a man of profound learning and ripe experience in medicine, and particularly in tropical medicine. Therefore, when he was in charge of all military and civilian medical service for Italy during the Ethiopian war, he achieved an unprecedented record for good health and low mortality among the Italian troops and civilians.

Although the Count insists that his book is not an exhaustive work, yet it appears adequately to cover the essential phases of geography, meteorology, physiology, pathology, so far as these bear on the effects of climate on man. The book presents much knowledge derived from many of the more important documented works on the subject, a bibliography of which is included. The main body of the book, however, is derived directly from the Count's rich personal experience gathered in long sojourns in many tropical countries.

The student of climatology or tropical medicine, or anyone living in the tropics, or anyone who expects to go there, will find the book extremely interesting and profitable.

Clyde Brooks, M. D.

Hernia: By Leigh F. Watson, M. D. St. Louis, C. V. Mosby Co., 1938. Pp. 591. Price $7.50.

This book is a fine evidence of the value of text on certain relatively restricted fields. It is true that one seeking information on hernia might obtain all the information contained in this book from numerous sources, but certainly, if one is seeking concentrated information on hernias of any type, here is an excellent place to find it. The author not only considers the different types of hernias, such as inguinal, umbilical, femoral, obturator, sciatic, diaphragmatic, internal hernias, but he describes in detail the different methods of treatment. At the beginning of each chapter is an excellent historical resumé of the subject. Herein are found such interesting facts as that Bassini is not the author and the originator of the so-called Bassini hernioplasty. The author says that Marcy described the epoch making technic in a paper he read before the International Medical Congress, London, in 1881.

Perhaps the most significant part of this book, a distinct addition to the first edition which appeared in 1924, is the discussion of the injection treatment of hernias. It is surprising that the author, who has had considerable experience, endorses without equivocation the injection treatment of properly selected hernias. The injection treatment is suitable for 90 per cent of the patients. Comparative figures showing recurrence after operative methods and after injection treatment make the latter seem equally as good if selected cases only are injected. By injection treatment, small indirect inguinal hernias gave 94 per cent cures and large indirect inguinal hernias gave 85 per cent. Ample space and sufficient excellent drawings are given to indicate technic of all methods.

The style has a friendly and intimate simplicity making the text easy to read. This is a splendid book.

Howard R. Mahorner, M. D.

PUBLICATIONS RECEIVED

Harvest House, New York City: Feminine Hygiene in Marriage by A. F. Niemoeller, A. B., M. A., B. S.

Light and Life Press, Winona Lake, Indiana: Doctors, I Salute! by Emilie Conklin.

Shaw Publishing Company, Washington: Drug Addicts Are Human Beings by Henry Smith Williams, M. D., B. Sc., LL. D.

Charles C. Thomas, Springfield, Illinois: Classic Descriptions of Disease by Ralph H. Major, M. D.

William Wood and Company, Baltimore: Physical Diagnosis by Richard C. Cabot, M. D., and F. Dennette Adams, M. D.

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SUBDELTOID BURSITIS*

PAUL A. McILHENNY, M. D.†
NEW ORLEANS

Inflammation of the subdeltoid bursa, also spoken of as the subacromial bursa, produces a condition which varies from a moderate discomfort to complete disability of the shoulder, and is more frequently encountered than similar bursal conditions elsewhere in the body. When one considers the peculiar characteristics of the shoulder joint and the situation of this bursa it is only surprising that the affection is not seen more frequently. Varying in size from that of a dollar to about three inches in diameter, and being a thin-walled synovial sac, it lies partly beneath the deltoid muscle, partly below the caricoacromial ligament and acromion process, and over the shoulder joint and greater tuberosity of the humerus. Fibers of the supraspinatus tendon, before proceeding to be inserted into and about the greater tuberosity of the humerus, blend with the inferior portion of the bursal sac and form much of its floor. It is the only bursa in which one of the initiative motion ligaments of a joint forms its floor near or at its attachment to a tuberosity, and has above it an osseous projection which in certain extreme motions causes an impingement between it and the tuberosity; for this reason the bursa is frequently injured by unguarded movements.

ETIOLOGIC FACTORS

Causative factors are trauma, direct and indirect, and infection. Direct trauma may be blows on the point of the shoulder over the greater tuberosity with the arm in abduction and falls upon the shoulder with the arm in marked abduction; indirect trauma, falls with the arm straight and abducted in which force is transmitted from the hand up the arm and the tuberosity is jammed under the acromion, and certain occupations and forms of athletics in which extreme elevation of the arm is required and the greater tuberosity is forced under the acromion. Such conditions either injure the bursa or produce minute rupture of the fibers of the supraspinatus tendon in the floor of the bursa or at its attachment to the tuberosity. Infection of the secondary type from a primary focus, I feel, holds an important place acting as it does in atrophic arthritis to which I think bursitis is akin, though other observers claim that such should not be considered. A history of direct trauma may be elicited though such is rare; however indirect trauma is often present though no specific incident may be recalled when the actual injury took place, and often the patient states that discomfort only started several days after the fall or blow. The onset is generally sudden, occurring during the night when the patient is awakened by a sharp pain in the region of the shoulder probably produced by an unguarded movement during sleep, or when rising in the morning pain is immediately experienced in the shoulder and all motions of the joint are restricted. Hoping that the condition will subside they generally wait several days before seeking a physician's advice. The condition may be divided into an acute, a chronic and a chronic with adhesions. If the acute form is present the patient is seen supporting the elbow and arm of the affected shoulder with the other hand and forearm, and walking about rather than sitting still. Considerable difficulty is found in removing clothing to examine the shoulder. All motions are restricted, with less restriction in anterior and posterior extension and greater restriction in internal rotation, abduction and extreme adduction. Generally there is an abnormal fullness of the deltoid region due to distension of the bursal sac, and an actual tensity of the skin may be noted; palpation elicits a dull pain extending from the acromion process down over the deltoid, and a very acute pain just at the greater tuberosity and over the outer portion of the supraspinatus tendon; pain may extend down the arm and up over the shoulder to the neck; palpation anterior and posterior to the head of the bone is remarkably free of discomfort; moderate abduction of the arm gives temporary relief but the patient is apprehensive and attempts to discourage any further manipulations. The chronic form presents a subsidence of the acute symptoms but there is a constant dull pain about the shoulder especially at the point, and all motions are limited. Inability to abduct the arm is marked and when the arm is passively abducted the patient is unable to maintain abduction. Atrophy of the deltoid is present, and palpation of this area and that of the supraspinatus tendon produces acute pain; a fusiform mass may be felt just at or adjacent to the tuberosity, such a mass generally being a calcification in the fibers of the tendon forming the floor of the bursa. X-ray pictures taken with the greater tuberosity in profile show the calcification and may show the bursa to be distended; pictures should also be taken with the humerus rotated inwardly and outwardly to show if the calcified mass extends anterior or posterior to the tubercle. Pictures of the opposite shoulder may also show calcification though no discomfort may have ever been present; if such be the case it is rather strong evidence that gradual and repeated trauma produced enough damage to the tendon fibers to allow calcification. The chronic with adhesions form only differs from the former in that greater immobility and contractions are present, and atrophy has increased. Crepitation in the affected area may be felt, such crepitation being produced by adhesions in the bursal sac itself.

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society at New Orleans, on May 4, 1938.

†From the Department of Orthopedics, Tulane University, and Charity Hospital.

DIFFERENTIAL DIAGNOSIS

From the differential diagnosis standpoint there is one condition especially the symptoms of which simulate and often confuse in diagnosing the acute form, and this is rupture of the supraspinatus tendon. If the tendon has been ruptured there will be a history of a rather violent trauma to the shoulder and immediate inability to abduct the arm. Since the supraspinatus muscle and tendon initiate abduction of the arm such an injury prevents that motion being performed to say nothing of the pain incident to attempted motion. It is true that palpation elicits the same kind of pain in both conditions, but rupture of the tendon may be felt as a defect just above the tuberosity or just below the acromion process, whereas in a bursal condition no such defect is present.

Treatment of the acute form primarily should be rest of the part preferably on a supporting splint with the arm in moderate abduction to relieve tension on the distended bursa. Aspiration of the bursal contents followed by irrigation of the sac through needles inserted in the anterior and posterior portions of the bursa has been advocated; multiple needle punctures of the sac to allow the contents to escape, injections of novocain, normal saline solution and lipiodol to distend the sac and so break up adhesions, if any, have been reported as beneficial. Removal or at least reduction of foci of infection, especially chronic constipation, is certainly rational. Guaiacol carbonate in. doses as used in atrophic arthritis has been valuable, and with me is routine; infra-red ray heat directed immediately over the bursa, and of uncomfortable intensity, for one hour daily is to be recommended. After ten days to two weeks of support the splint may be discontinued and gentle massage and active motions of the shoulder started. Such medication and physiotherapy should be continued until no discomfort is present and a normal range of motion has been re-established, this requiring about six to eight weeks for accomplishment. The chronic form is more resistant to treatment and in this I also use guaiacol carbonate, massage and baking. If the palliative treatment does not suffice, and palpation and x-ray give evidence of considerable distension and calcification, then operation and exploration of the bursa should be resorted to. In operating, a median anterior incision, starting at the acromion process and curving forward and downward so as not to injure fibers of the deltoid, is advisable. By retracting the deltoid and rotating the humerus inward, the bursa will be brought into view and found to be considerably distended; incision of the sac allows the contents to squirt out; any adhesions in the bursal sac should be gently broken up and the sac irrigated with normal saline solution. This wound should be closed in layers. The chronic form complicated with adhesions should have gentle but firm manipulations of the shoulder preferably under a general anesthetic not only to break up the adhesions but also to stretch the contracted periarticular structures. As considerable atrophy is present in the muscles and humerus, care should be exercised in carrying out the manipulations lest fracture of the surgical neck be produced. Having secured the desired amount of mobilization, the arm should then be supported on a splint in moderate abduction for forty-eight hours; then moderate active motions and physiotherapy started. Cooperation of the patient in performing the corrective exercises prescribed is most important and on it depends the future usefulness of the joint; the prognosis is good but a maximum time of six months may be required for rehabilitation.

CASE REPORTS

Case 1. Mr. J. W. F., aged 57, gave a history of pain in left shoulder for several months. Occupation, electrician; work requires extreme elevation of arms for long periods. During past few weeks pain has gotten progressively worse. Examination showed limitation of motions, and considerable pain over deltoid region on palpation. X-ray showed considerable calcification in bursa on left, and slight in right. Diagnosis: chronic bursitis. Guaiacol carbonate and physiotherapy started on March 3, 1937, and continued till May 25 when motions were normal. Last seen September 28. Reported no return of discomfort.

Case 2. Mrs. E. H. M., aged 61, a housewife, who does most of her own work especially sweeping. Pain in region of left shoulder for five months, excessive at times; getting progressively worse; tendency to constipation; occasional sore throat though tonsils are apparently negative. Examination: Motions limited; pain at point of shoulder on pressure; unable to raise arm in abduction or maintain abduction; no history of fall or other injury; no crepitation. Diagnosis: chronic bursitis. Guaiacol carbonate, physiotherapy, mild cathartics, balanced diet started on February 4, 1937, continued till June 28, when patient was symptom free. Advised to continue diet and cathartics. On October 23 reported no discomfort.

Case 3. Miss M. D., aged 19, helps in housework at home. Admitted to hospital on February 13, 1938. Five days previously a window screen fell on point of right shoulder while arm was extended out window; no pain at time of blow or subsequently till four days later; the night previous to admission she awakened with severe pain in right shoulder; had to take a sedative. Examination: Arm held at side and supported with opposite hand and arm; palpation showed fullness in deltoid region; acute pain just at tuberosity; all motions greatly limited; sore throat; constipated. Diagnosis: Acute bursitis. Arm was placed on semi-abduction splint and hand and forearm with sling; saline gargle; mild cathartic; guaiacol carbonate; physiotherapy ordered. Splint discontinued on February 25, 1938. Discharged from hospital on March 4 to clinic. Discharged from clinic on April 8, 1938 symptom free.

Case 4. Miss M. J., aged 18, salesgirl. Admitted to hospital on January 1, 1938. One week previous to admittance fell while skating, catching self on hand with arm straight; slight discomfort in left shoulder for short time; no further discomfort till January 10, 1938. Shoulder then began to hurt and all motions became increasingly painful, and she had to stop work. Examination showed all motions greatly restricted and very painful; considerable fullness over deltoid, palpation causing very acute pain especially at point of shoulder; tonsils enlarged and moderately inflamed; patient very apprehensive of pain and fearing to take supporting hand and arm from affected arm. Diagnosis: Acute bursitis. Supporting abduction splint and sling applied to arm. Saline gargle, alkalinizing drinks, guaiacol carbonate, physiotherapy prescribed. Splint discontinued on January 24. Discharged from hospital on February 8, being practically symptom free and having been able to help in ward work with other patients. Did not report to clinic, and has not been heard from since leaving hospital.

DISCUSSION

Dr. Guy A. Caldwell (New Orleans): Dr. McIlhenny has certainly given us a timely and excellent review of subdeltoid bursitis. Many cases, however, are more puzzling and difficult to handle than this discourse would indicate. It is true that many in the acute stages give rather spectacular results, when treated as Dr. McIlhenny has suggested. Others have such mild symptoms and disability that it is difficult to get the patient to undertake treatment.

The differential diagnosis of chronic or subacute subdeltoid bursitis from true neuritis or periarthritis is sometimes very difficult. Pain radiating down the arm and to the side of the neck, limited shoulder movements and tenderness of slight degree, not localized to the bursa, indicate periarthritis which is seen more often than subdeltoid bursitis. Periarthritis demands a little different treatment: manipulation under anesthesia followed by suspension and traction or by splinting and physiotherapy of a suitable type.

The treatment of chronic subdeltoid bursitis which requires operation is not complete when the operation has been done. The removal of the calcium deposit that we see in the roentgenogram does not constitute the entire procedure. It is nearly always essential to manipulate the joint to break down adhesions and to follow this with suspension and traction in abduction together with heat and active exercises.

Dr. Muir Bradburn (New Orleans): I was interested in the emphasis which Dr. McIlhenny laid on the infection. It has been my experience that infection plays a small part in the cases of subdeltoid bursitis. Of course most of the cases I have seen have been from direct trauma: a fall on the shoulder, or from indirect trauma with rupture of the supraspinatus. In one case I thought I was mistaken. This lady whose husband reported that the condition had been greatly improved by the removal of a tooth (the skiagram of which showed no apical abscess), against which I had advised, reported two days ago. Not only was she having difficulty with the subacromial bursa but with the bursa of the coracobrachialis as well. This was easily distinguished by the anterior prominence in which one could detect fluctuation.

Diagnosis is very difficult at times. You cannot always detect swelling.

Dr. Caldwell called attention to the difficulty of diagnosis in distinguishing these cases from neuritis. I have one case now, three months following a rupture of the supraspinatus tendon, associated with a median neuritis which was not present at the onset but occurred about ten or eleven weeks after the accident.

I have nothing else to add except to stress again that trauma plays a large part and infection a negligible part in the production of subacromic bursitis.

Dr. Nathan Polmer (New Orleans): Shakespeare has told us that "a rose by any other name would smell as sweet," and I see that the orthopedic surgeons and those physicians of our city who have encountered these conditions of painful shoulders, whether it be a bursitis, a rupture of a supraspinatus tendon, periarthritis or neuritis, are of the opinion that the fact remains that by any other name the pain and disability and limitation of motion, would be the same.

In a study of one hundred cases which I have treated at Touro Infirmary, we have found that infection or possible infection could be present in fifteen per cent of the cases. We feel that often repeated minor traumas, as occupational traumas when working with the elbow flexed, arm abducted, would continually irritate the subdeltoid bursa area and calcification would set in. I am glad the doctor recommended conservative type of therapy. In conservative treatment, physiotherapy plays an important part; rest for the inflamed or injured part, heat with an infra-red lamp, have both shown fair measures of success. Personally, I prefer diathermy in order to get an active hyperemia within the bursa area. Sometimes the patients complain of pain after treatment and we think this is caused by increased hyperemia.

I have four slides I would like to show in connection with this discussion. (Slides shown).

Dr. John T. O'Ferrall (New Orleans): I have heard many of our fellow surgeons discourage surgery in this condition because of difficulty in exposing the bursa. I do not know of anything easier than to expose the subdeltoid bursa. It is simply a matter of making an incision of the skin and separating the fibers of the deltoid and you are right on the bursa. The next membrane that you open is the floor of the bursa. I believe surgery has a distinct place in the treatment of some of these cases and certainly in cases of ruptured supraspinatus tendon.

It is interesting to note that no one mentioned what the so-called calcified mass really is. Stern, of Cleveland, has had the opportunity to open the subdeltoid bursa and recover the so-called calcareous deposit, but the laboratory reported that it was amorphous fat and not calcification. Shadows are cast just as if it were calcareous in nature but as a matter of fact it is not.

These cases are intensely interesting and the differential diagnosis between bursitis, whether calcified or not, and rupture of the supraspinatus tendon is extremely important. There are many cases in which the compensation laws demand differential diagnosis. I had the opportunity just recently to demonstrate the rupture of supraspinatus and, upon exposing the joint, found the fragments of the tendon very easily and sutured them. One patient made complete recovery; the other was operated on just a week ago.

Dr. Paul A. McIlhenny (In closing): I purposely mentioned infection last as a causative factor. There is no doubt whatsoever in my mind, and in the minds of the majority of those interested in the subject who have written on it, that trauma is primarily, in the majority of cases, the exciting causative factor. However, because I have seen a number of cases in which no trauma could be elicited, even from an occupational standpoint, and foci of infection have been found, I was rather emphatic in my belief that the infection played a rather important part. This position has been materially strengthened by the fact that such cases do improve more rapidly when the focus of infection has been removed or at least decreased over those in whom possible infection has been ignored. I therefore reiterate that foci of infection should be cared for.

SOME GYNECOLOGIC PROBLEMS OCCURRING DURING THE REPRODUCTIVE PERIOD*

VIRGIL S. COUNSELLER, M. D.†
ROCHESTER, MINN.

It is believed that the onset of menstruation initiates the reproductive period in women and terminates some time during the fifth decade of life. Variations occur in these limits, but they are still entirely within normal range. During this period constant physical and physiologic changes are occurring within the uterus and vagina. The normal ovary responds to hormonal stimulation, as evidenced by the formation of graafian follicles and the corpora lutea; therefore, the ovary also undergoes physical changes constantly during the menstrual cycle.

The surgical problems that arise in the female genital tract before women are forty years of age must be considered with the view of conserving, in so far as possible, both the reproductive function and the menstrual function. In this connection my colleague, W. J. Mayo, once said: "The generative organs of women are for the purpose of reproduction. The ovary controls the physiologic cycle, the uterus receives and carries the impregnated ovum to term. The uterus is often blamed for troubles with which it really has little to do. The curet is a much abused instrument. The endometrium is relatively seldom diseased and a high percentage of menstrual disturbances are ovarian and tubal in origin. A sufficient distinction is not made between irregular bleeding from the uterus and true menstruation. Menstrual blood does not clot. If the blood forms true clots, the endometrium may be suspected, otherwise the ovary."

Among the conditions which frequently interfere with the normal physiologic function of the genital tract and which may require surgical treatment are benign tumors of the uterus, endometriosis, retrodisplacements and ovarian neoplasms.

BENIGN TUMORS OF THE UTERUS

The benign tumors of the uterus with which we are concerned are leiomyomas and adenomyomas. It is rare to encounter these tumors among women who are less than 25 years of age but the incidence increases progressively to the fourth decade of life. The incidence is definitely greater among women who have never been pregnant and it is on record that it is much greater among women of colored races than it is among white women, the ratio being about 9:1. Seventy-five per cent of colored women beyond 35 years of age have myomas especially if they have not had children. The tumors are usually multiple; single myomas rarely are encountered, probably in not more than 5 per cent of cases. Not all benign tumors will require treatment, but surgical treatment will be necessary in many cases, as a result of degenerative changes, pressure symptoms and hemorrhage.

The situation of the myoma in relation to the uterus is important in selecting the type of surgical treatment. Most myomas are found in the body of the uterus either on the anterior or posterior wall. They are

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*Read before the fifty-ninth meeting of the Louisiana State Medical Society, at New Orleans, May 4, 1938.

†From the Division of Surgery, The Mayo Clinic, Rochester, Minnesota.

considered to originate within the myometrium and their ultimate situation is determined by their direction of growth, which may be toward the uterine canal or toward the surface of the uterus. Those which develop high in the fundus and extend toward the peritoneal surface seldom cause any difficulty during a myomectomy, which is the operation of choice unless the uterus has been hopelessly destroyed by the growths. Difficulty does arise when the tumors originate in the lower portion of the fundus and extend laterally into the broad ligaments, or anteriorly into the base of the bladder or posteriorly into the cul-de-sac or into the folds of the mesocolon. If one does not wish to remove the uterus, some very serious problems arise. For instance, laterally the uterine artery and veins pass either in front or behind the base of the tumor and it often is safer to divide them rather than risk severe bleeding by retracting the vessels. The ureter in such instances is pushed from its normal position and unless it is visible it is likely to be injured. Tumors that extend anteriorly near the base of the bladder usually are rather firmly attached to the wall of the bladder. It has been my experience that if much injury to the wall of the bladder occurs during removal of the tumor it is safer to excise the segment of bladder that is attached to the tumor than it is to take the chance of producing a vesical fistula. The bladder can be safely closed with two rows of catgut sutures. The tumor that grows posteriorly under the peritoneum of the cul-de-sac is rare, but when it does occur its removal without hysterectomy is likely to produce pain from subsequent fixation of the uterus.

Myomas that grow toward the uterine cavity are often difficult to identify unless they are 4 to 5 cm. or more in diameter or become extruded through the external os. These tumors tend to undergo degeneration and to become soft and necrotic. Profuse and prolonged bleeding at the menses occurs frequently and is associated with severe secondary anemia. At examination these tumors may be overlooked since the contour of the uterus is normal. The patients too often are given a castrating dose of radium or roentgen rays. In cases in which the patients are less than 40 years of age the myomas should be removed surgically. Many submucous myomas can be extracted by grasping the tumor with a tenaculum and twisting it gently. Bleeding is rarely a troublesome factor and can be controlled by a uterine pack. Myomas of large size can be adequately approached by a vaginal hysterotomy. This is the safest method if there are multiple submucous tumors. If there is no infection but if there are other tumors in the myometrium, abdominal myomectomy is the preferable operation. When there is much infection, as there always is in submucous pedunculated myomas, an abdominal myomectomy, if indicated, should be delayed several weeks or months, that is, until all infection has subsided.

The bleeding and the foul vaginal discharge which so often are noted in connection with a pedunculated vaginal myoma may be mistaken for carcinoma of the cervix. In the latter condition the prognosis naturally would be altered considerably. Manipulation of these sloughing myomas must be accomplished without instruments. The tumor may be pulled into view by the hand and its pedicle examined with the finger. The pedicle is clamped adjacent to the wall of the uterus and excised. Bleeding can be controlled by leaving the forceps attached or by packing the uterus with gauze.

I wish to emphasize that the discovery of one or two small myomas during the course of examination is not an indication for their immediate surgical removal; such tumors may remain symptomless for years and the patient even may become pregnant several times without any harm being done. Many patients with small symptomless fibroids are treated with radium when the indications are not sufficient, and in fact when this form of therapy is contraindicated. In the treatment of the healthy young woman who has a myoma, radium is a very destructive method and one that is not considered conservative.

Pain and discomfort associated with small benign tumors of the uterus are usually significant of adenomyomas, especially if the discomfort is intense at the time of the menses. The distress in these instances tends to diminish slowly following menstruation. It is important to distinguish clinically, so far as possible, between adenomyomas and leiomyomas. The former rarely assume a submucous or a subperitoneal position since they are intimately attached to the myometrium. There are no cleavage planes as in fibromyomas and they must be excised by sharp dissection. These tumors become quiescent following the menopause but during the reproductive period of life, surgical removal is often necessary since these tumors become activated to a certain extent by ovarian stimulation.

Adenomas may be discrete within the uterus or diffuse; they often are designated as internal and external adenomyosis. This condition is frequently referred to as endometriosis owing to its resemblance to the endometrium. In addition to discrete adenomyomas within the uterus, the question of the proper treatment becomes more complicated when there are diffuse implants involving the ovaries, posterior surface of the uterus and the peritoneum of the cul-de-sac and rectum. The process increases progressively and the most severe involvement is encountered between the ages of 30 and 35 years. However, during recent years the condition has been observed among patients who were considerably less than 30 years of age, which probably reflects more accurate diagnosis as a sequel to the general interest in this disease. It is of interest that the majority of these patients are sterile, or if they have had children subsequent sterility apparently is associated with the onset of the endometriosis. The explanation seems to be that the adnexa become adherent under the broad ligament and implantation on the ovary and the production of hemorrhagic cysts interfere with ovulation. The fallopian tubes, except for adherence of the fimbriated ends, are remarkably free from the disease. It is rare to find only one of the adnexa involved; in such cases there are implants on the uterosacral ligament and the uterus or rectum.

TREATMENT

The treatment is surgical and should be conservative in type whenever the process is not extensive, but those in whom conservatism is possible, I believe, will not exceed 50 per cent. In cases in which the lesions are extensive, complete removal of the pelvic organs is necessary even though the patients may be less than 40 years of age. Conservative surgical methods, which have a better chance of success in cases of early involvement, consist of local excision of the implants and resection of both ovaries, or perhaps removal of one of the adnexa. It has been my experience that the relief from dysmenorrhea is more complete if, in addition to local excision, a resection of the presacral nerve is performed. Since pain is evidence of recurring trouble I believe that many patients can be kept rather comfortable by this method until later years in life when they can be relieved by a castrating dose of roentgen rays or by radical surgical measures without producing too great an emotional imbalance. If the disease is so diffuse as to require complete removal of all the pelvic organs and if the patient is a young woman, it has been my custom to save the healthiest portions of both ovaries, shave them into fine segments and transplant them above the rectus fascia adjacent to the perforating blood vessels in the abdominal fat. These segments of the ovaries grow and become active in about eight weeks; the activity occurs four or five days each month coincident with ovulation. The patient may experience an artificial menopause until the grafts are growing, then the patient is either partially or completely relieved depending upon the success of the graft. Should the graft become cystic or painful they are very accessible just beneath the skin and can be excised or destroyed by application of radium. So far I have not found it necessary to remove any graft. A small clot formed in one corpus luteum cyst which was easily evacuated without harm to the graft.

RETRODISPLACEMENT

One of the most frequent abdominal surgical procedures in young women is some attack upon a retroverted uterus, which I am sure is performed without sufficient evidence that relief will be obtained since the uterus is often blamed for troubles with which it has little to do. It must be remembered that the uterus may be in a retroverted position in 30 to 40 per cent of unmarried young women, but it is not adherent in that position. The explanation of this condition is found in the faulty attachment of the pelvic fascia to the uterus, above the uterine artery. There is nothing to prevent the uterus from moving back and forth so it is just as normal in one position for a time as it is in any other position.

The faulty development in the pelvic fascia is somewhat peculiar to the nervously exhausted or psychoneurotic type of patient whose abdominal organs are generally ptosed. The menses are frequently irregular as a heritage from glandular dysfunction and there is dysmenorrhea of the primary type. The physical condition of these young women is easily influenced by their social and economic status; they are unable to be on their feet long periods at a time or to be employed in positions that require considerable nervous energy. Since the majority of them have pelvic discomfort and perhaps irregular menses, the generative organs are accused of producing the entire syndrome. Surgical correction of this type of retroversion invariably fails to accomplish the desired result.

Fixed retroversion from any cause is an entirely different condition and its surgical correction is usually indicated. The most frequent type is that which occurs after pelvic inflammatory disease, either specific or non-specific, and the next most frequent type probably is that caused by endometrial implants. The surgical problem involved is usually more than the correction of the retroversion. Other pathologic conditions must be dealt with in such a manner as to conserve both the menstrual and reproductive functions and so as not to interfere with subsequent pregnancies.

An intra-abdominal operation for the correction of retrodisplacement is one of the most frequently performed gynecologic operations in both the nulliparous and multiparous woman; it often is performed without sufficient indication. If the patient is a multiparous woman and the retrodisplacement is uncomplicated, I seriously doubt whether one ever is justified in performing an intra-abdominal operation for simple correction of the position of the uterus and certainly there is still less justification to do a combined vaginal plastic repair and an internal shortening of the round ligaments. The explanation is that the correction of the position of the uterus can be more safely and permanently accomplished by the vaginal route in connection with a repair of the cystocele and the pelvic floor. This requires a complete knowledge of the pelvic fascia and its normal attachments to the uterus, cervix and bladder.

Vaginal plastic operations during the reproductive period of life must be carefully considered and meticulously performed so as to restore the normal anatomic relation of the parts and to avoid subsequent dystocia. It is often prudent judgment to postpone vaginal plastic repair until later in life or until subsequent pregnancy is not anticipated. When surgical correction is necessary for relief of symptoms it seems to me that either the Manchester operation or a vaginal plastic repair with a Sturmdorf amputation of the cervix is the operation of choice, since neither procedure interferes seriously with future pregnancy and delivery. The Manchester operation is the one preferred in England for all degrees of relaxation and prolapse at any age. Its popularity certainly is increasing in this country and I believe it is sufficiently effective to supplant most operations for cystocele and rectocele. Its greatest usefulness seems to me to be in cases of moderate descensus and not in cases of complete prolapse.

OVARIAN NEOPLASMS

Ovarian neoplasms constitute one of the most interesting and most important groups of conditions in gynecology. The variation in their histologic character and in their manner and rate of growth greatly influences the surgical treatment. They may be benign or malignant and some are classed as of questionable nature. The frequency of their occurrence varies with the age of the patient. For example, it is rare to discover a malignant ovarian neoplasm in a case in which the patient is less than 35 years of age but it can and does occur. If the tumor is encountered beyond this age or after the age of fifty years the possibility of a malignant neoplasm increases progressively. As a matter of fact, in cases in which the patients are more than 50 years of age it is most uncommon to find an ovarian neoplasm that is not malignant. The most common ovarian neoplasms encountered in the third and fourth decades of life are cystadenomas and adenomyomas, both of which are benign. The surgical treatment of the latter type has already been considered.

The cystadenoma arises in the substance of the ovary, in contradistinction to simple follicular cysts. It contains a watery or mucoid material and is sterile. A cystic tumor that fills the abdomen of the child or young woman is likely to be of this type. It is unfortunate that in cases in which these cystic tumors affect young women the tumors are often classed as papillary cystadenomas, that is, as malignant tumors; as a result of this classification, many radical pelvic operations are needlessly performed. Many small simple ovarian cysts also are removed under the assumption that they are cystadenomas. It is important to remember that in young girls, at least, many of these simple cysts rupture and disappear spontaneously, but if they continue to grow they may be regarded as cystadenomas or possibly as malignant papillary cystadenomas. The gross appearance of a cystadenoma and a papillary cystadenoma may be the same. The latter is malignant and the grade of malignancy must be determined by immediate histologic examination. The importance of such information is that in about 50 per cent of the cases these tumors involve both ovaries. If one ovary of a young woman appears normal while the other is malignant, and if the ovary which is apparently normal is left in situ, frequent observation in the next few years is imperative. This statement is predicated on the basis that all papillary epithelium, wherever situated, is regarded as malignant although the grade of malignancy may be relatively low.

When malignant neoplasms, such as papillary adenocarcinomas, carcinomatous cystadenomas, solid carcinomas and carcinomatous dermoids are discovered in the third and fourth decades of life, although their occurrence is somewhat rare at this age, the treatment is exactly the same as that employed when they occur in the later decades of life. The reproductive function must be disregarded under such circumstances because the life of the patient is being threatened. An immediate, complete histologic examination should be made in every case of adnexal neoplasm unless the gross appearance of the neoplasm confirms its nature, since a highly malignant tumor not infrequently may be situated within a mass of harmless looking tissue. For example, it is not uncommon to find adenocarcinoma, grade III or IV, within a hemorrhagic chocolate cyst whose base may be adherent to the lateral pelvic wall. Surgical treatment then should be radical and possibly should be followed by roentgen therapy.

There is a group of tumors that now are being seen commonly. Their histologic appearance is of questionable nature, but they are of further interest owing to their hormonal influence. These are granulosa cell tumors, arrhenoblastomas and disgerminomas.

Up to 1930 only 43 cases of granulosa cell tumors had been reported, but since then more than 300 cases have been added to the literature. This indicates that the probable presence of such tumors has often been overlooked. While about 50 per cent of such tumors are observed beyond the menopause, at least a third occur during the childbearing period of life and some even occur before the age of puberty. According to Dockerty, who has recently studied our material at The Mayo Clinic, the tumors produce a temporary sterility, and normal ovarian function is in abeyance but not permanently affected because pregnancy has followed removal of the tumor.

The histologic nature of these tumors has caused considerable confusion since some regard them as possibly malignant and others as benign, although mitotic figures are occasionally seen. Recurrence or metastasis has not occurred following simple excision of these tumors; this information is extremely useful in dealing with these tumors before the age of puberty and in the reproductive period of life. Radical operation is therefore contraindicated.

Arrhenoblastoma is a masculinizing ovarian neoplasm encountered in the reproductive period of life. It is important to recognize this tumor clinically and to remove it early. Its presence should be suspected in cases in which amenorrhea, hypertrophy of the clitoris, hirsutism, atrophy of the breasts or changes in the voice occur, and in cases in which there is a palpable ovarian tumor.

Most authors agree that 90 per cent of these tumors are benign but about 10 per cent will show varying numbers of mitotic figures; however, metastasis has not been observed in cases in which mitotic figures were present. Simple excision is indicated in the great majority of cases but some consideration regarding radical hysterectomy must be given in the small group of cases in which mitotic figures occur. The importance of immediate microscopic examination of the tissue of such tumors is of more value than the gross appearance.

Disgerminomas are important because they usually occur in the second decade of life. They are sexually indifferent but from a histologic viewpoint are highly malignant, although their clinical course is relatively benign. The same type of tumor that also occurs in the male is, on the other hand, highly malignant, thereby conforming to its histologic picture. In the female such tumors may be unilateral or bilateral. If they are unilateral only simple excision is indicated, but if both ovaries are involved a complete hysterectomy is indicated.

If metastasis is associated with bilateral involvement, extensive roentgen therapy is in order, since the cells of these tumors are regarded as very radiosensitive. Metastasis, although it has been reported, is the exception and not the rule. The difference in the clinical behavior of these tumors in the male and female is not understood, but their recognition is extremely important in administering the proper treatment.

SUMMARY

Leiomyomas and adenomyomas (endometriosis) present some of the most difficult surgical problems during the reproductive period of life. Myomectomy and adenomyomectomy are the only conservative surgical procedures applicable, but radical hysterectomy may be advisable if the tumors have extensively destroyed the uterus. Radical operation also may be the logical procedure in extensive endometriosis, but ovarian transplantation to the abdominal wall in the second and third decades of life may be beneficial.

Intrapelvic operations for retrodisplacement in the young adult and particularly in the nulliparous patient must be undertaken with considerable caution. Vaginal plastic operations are preferable to abdominal procedures for retrodisplacement and descensus in the multiparous woman. The Manchester operation is preferable in the childbearing period.

An immediate histologic examination of all adnexal tissue is desirable to ascertain the presence or absence of malignancy, and if the tissue is found to be malignant it is highly important to know the cell type in order to apply the proper surgical procedure and also to obtain some information regarding the necessity of postoperative roentgen therapy.

DISCUSSION

Dr. H. W. Kostmayer (New Orleans): My first impression as Dr. Counseller went along was that he outdid me in conservatism, and I have prided myself on my conservatism. However, we are not quite as conservative in dealing with myomatous uteri as apparently Dr. Counseller is. It gives us something to think about. Perhaps we are more radical than we need be in dealing with adenomyomata.

My second, and lasting impression of this presentation is that it represents the work of a profound student, as all know him to be, and it has given us many things to think about, so many that I would have to have more time than you will permit me, and would require more knowledge than I possess, to discuss it fully.

I have been especially interested in his discussion of the surgical problems connected with displacement of the uterus during the childbearing period, and while I hold a different opinion as to whether displacement of the uterus during the childbearing period should be attacked intra-abdominaly, if at all, I nevertheless feel we have been given a real treat.

Dr. Conrad G. Collins (New Orleans): There are two other types of ovarian tumors that we have encountered in the last two years, which produce masculinization or femininization of the patient.

The first that I wish to discuss is the adrenal cell rest. These tumors have a masculinizing effect upon the woman and she develops amenorrhea, hypertrichosis, enlargement of the clitoris, and a characteristic male voice. Clinically, one is unable to differentiate these tumors from the arrhenoblastoma, which type of tumor produces the same symptoms. The differential diagnosis can be made only upon microscopic section. Thus far, there have been only 19 of these tumors reported in the literature.

The other type of tumor, two of which I have removed during the past year, is the theca cell tumor. These tumors, until two or three years ago, were classified as fibromas with fatty degeneration. Grossly, they resemble fibromas but are of a deep yellow color. They arise from theca cells and have a definite effect upon the hormonal balance, producing amenorrhea of varied periods followed by menorrhagia. Microscopically, they closely resemble fibromas, but differ in that they contain intracellular as well as extracellular lipoid material. This lipoid material is a doubly refractile cholesterol ester, and this type of lipoid is only found in tumors producing an endocrine dysfunction and is not found in the Brenner tumors or in disgerminomas. The theca cell tumors are benign and removal is sufficient to produce a clinical cure.

Dr. Virgil S. Counseller (In closing): I wish to thank those who have taken part in the discussion and whose material has added greatly to my consideration of this subject. When I was in England about two years ago I had the privilege of visiting Victor Bonney. His work in pelvic surgery has distinguished him as one of the leading surgeons of his country. He favors myomectomy more than most surgeons favor it; in fact, he prefers myomectomy when others might favor hysterectomy. I am certain conservatism in the surgical treatment of myomas of women before the age of forty years needs to be reëmphasized.

Dr. Collins has emphasized the hormonal influence of some ovarian tumors and in this connection has referred to the adrenal cell rests. These tumors are of great importance and it should be mentioned that it is often difficult to distinguish some of them from primary adrenal tumors, for the two have certain characteristics in common. Furthermore, Dr. Collins' reference to theca cell tumors is timely.

THE CONSTITUTIONAL PSYCHOPATH AS A COMMUNITY PROBLEM*

T. H. PARGEN, M. D.

JACKSON, LA.

Since the beginning of time every community, no matter how small, nor how isolated, has been faced with a very vital question; namely, what disposition to make of its undesirables—the misfits who, due either to social, moral, mental or physical defect, were unable to approach the hypothetical normal adult near enough to adjust themselves to the common good of the whole. In the early recordings of history these people were either destroyed pre-emptorily, or cast out of the group to shift for themselves. Being so ill equipped, of course they were unable to survive this ostracism. Down through the ages with the evolution of social customs, acquirement of knowledge and the making of laws, punishment by incarceration and sometimes death gradually developed as the complete solution of this all important problem, and this disposition continued until less than two centuries ago when there occurred the first effort to divide the group. In France, in 1790, Pinel was going into the prisons, striking irons from those of the prisoners who were insane, and beginning the movement for special places of confinement for the individuals who were psychotic. From then until the present, society has evolved two systems of restraint: prisons for the criminals, mental hospitals and colonies for the insane, mental defectives and epileptics. This, obviously, is very good, as far as it goes, but we all realize that it is not sufficient, because there is a large group of maladapted people who are not cared for with these facilities.

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*Read before the Louisiana State Medical Society at New Orleans, May 3, 1938.

PERSONALITY GROUPS

For purposes of illustration, society might be divided into: first, the normal and the abnormal. The abnormal, in turn, is subdivided as follows: the criminal, the psychotic, with associated mental deficient and epileptic, and a third group which has been variously named, but loosely referred to as the psychopaths. In searching the literature one is amazed and baffled that a group so important has been ignored by some authorities, casually touched by others and its existence practically denied by still others. It is true that such a diagnosis may be unsatisfactory, and even unscientific, but we all know only too well that such a group does exist and does give an untold amount of trouble to every agency, social, legal, or medical, which contacts it. So, why not stop quibbling over terminology and attempt to do something about it. True, the condition is hard to label because it hinges on personality defect, and just as every normal personality differs in some respect from the next, so every defective personality would present a different picture to another. Readily then one conceives a heterogeneous group in which there is no specific type of mental reaction such as there is in the affective disorders, but in which they run the gamut of manifestations. Strecker chooses to call them the "individuals who habitually misbehave and are ill equipped from birth to meet the demands of their environment." This, to me, seems a good point for enlargement, namely, in what manner are they ill equipped? There is no intellectual involvement as seen in the mental deficient, because none of these people show a lowered I. Q. In fact, many of them are well above a normal quotient. They do not seem to have stability in their emotional fields; their acts, therefore, become completely unpredictable. They are impulsive and consequently do very unwise things, showing an absolute lack of judgment. The characto-logic defect of the make-up is here quite clearly shown. The individual realizes an act is wrong, comprehends its natural outcome, yet commits it just the same, not seeming to evaluate it. He can never be depended upon in matters of morals, logic or ethics. There is a total lack of consideration for others, and an utter disregard for decency and honesty. All habitual criminals or delinquents must not be included in this group, nor must all psychopaths be called criminal, since this is not the case. Fully 50 per cent of them never come in conflict with the law, although they are always out of step with society. However, many habitual criminals are psychopaths, and therefore present additional responsibility. The psychopath is difficult for his egocentricity, riding roughshod over all, demanding everything, but giving nothing. He seeks sympathy only to take advantage of it, is unable to apply himself for long at a given task, is inefficient to a marked degree, never with a definite objective. He is boastful, substantiating his braggadocio with fabulous lies, and supporting his claims by law violation.

From study of many patients, it is felt that although the condition exists in all of them from the beginning, it manifests itself at different times. Some show from early childhood signs of abnormality, such as tantrums, outbursts of rage, sulkiness, stubbornness, or theft. In others the defect lies dormant until at some time in later life it is awakened, such as by a severe emotional shock. This calls to my mind, as an example, the most incorrigible psychopath with whom I have ever had to deal. His home life was ideal, conduct exemplary, school life excellent. He stood high in his studies and did well in athletics; never at any time did he give his parents the least concern. At the age of seventeen years, while in the tenth grade at school, his mother died. Within a month he was in the penitentiary in another state for stealing an automobile. During the next seven years he had five convictions and four hospital commitments, the last a criminal one, and is now confined at our Criminal Insane Department. He boasts of his accomplishments, is fully conversant with the consequences of such acts, yet he has no feeling of remorse; states that he did these things for the kick he got out of it and thought that it was a great game trying to beat the law.

THE DYPSOMANIAC AND THE DRUG ADDICT

There are two other types of cases which give us all considerable concern, that I feel should be in the psychopathic group of latent awakening—the dypsomaniac and the drug addict. In looking back, how many of our alcoholics presented personalities within normal limits before the habit, but quickly became fullblown psychopaths after overindulgence. These changes are too complete and rapid to be charged to alcohol per se. Again, how very often do we hear from the drug addict: "A doctor started me on dope when I was sick, and now I have the habit." Regardless of the specific illness named, every doctor has treated numbers of cases like it, yet they all did not develop the habit. Why? Because a dormant psychopathic personality was not there to be aroused. These individuals, likewise, have not been on the drug long enough for it to bring about all of the observed changes.

CLASSIFICATION OF THE PSYCHOPATH

There have been numerous classifications of the psychopath as to type, possibly as many as there are authorities who have written of this condition. None, however, seem satisfactory, because they tend to classify as to the predominating symptom: for instance, nervous, anxious, or depressed. It seems to me that a classification which considers primarily group reaction would be better. This is in line with the advice of Partridge who divided them into: (1) the delinquent; (2) the inadequate and (3) the incompatible. This very nicely covers the whole field, permitting sub-grouping according to the specific form of dereliction. Obviously, then, only the first, the delinquent, presents a community problem. Here there are subgrouped all who come into conflict with the law: namely, the excitable, the liar, the swindler, the addict, the sexual, the kleptomaniac, and others. It is therefore this group that it is most necessary to index and supervise in order to safeguard society in general. Kraepelin foretold, and to date we find slight variation from his figures, that 50 per cent of male and 35 per cent of female psychopaths fell within this group.

It is unforunate that there are no available figures to show the incidence of constitutional psychopathy in the community, but, combining 70,000 first admissions to state hospitals, psychoses associated with this condition constitute 1.2 per cent of the total number. Assuming then that insanity occurs with the same relative frequency among the psychopaths as it does among the hypothetical normal, better than 1 per cent of the individuals in each community are so afflicted.

IDEAL CONTROL OF THE PSYCHOPATH

Admitting, then, that we are faced with a task so tremendous as almost to baffle description, we are asked what to do about it. As a starting point, I suggest that we follow the example set forth by the Federal Bureau of Identification in their drive to record the finger prints of all citizens of the country. Available to every court there should be a psychiatrist to examine each individual convicted of an offense, no matter how minor. If that person is found to be of a psychopathic personality, he should be so labeled and indexed, ever afterwards to be under the supervision of probation. Holt, in analyzing the statistics of examinations made by the Massachusetts Department of Mental Hygiene in the case of 5,000 persons committed to jail for thirty days or more, found that the diagnosis of psychopathic personality was made in 15.5 per cent of the number committed.

All of us who have had the opportunity to work with confined psychopaths in hospitals or prisons find that the vast majority of them make good patients or convicts, as the case may be. They lend themselves to routine and prove trustworthy, under disciplinary supervision. We all rebel when reading of a particularly brutal crime committed by a paroled convict, who labels himself a psychopath by the very nature of his crime, but upon investigation of the records we find that he was an ideal prisoner—trustworthy, and entitled to release for good behavior. It is then reasonable to believe that continued supervision upon release from prison would prevent many second offenses.

Some countries have detention camps for their "undesirables." During the last few years there has been built a system of C. C. C. Camps, which have been of immeasurable benefit in the face of the severe crisis confronting our national youth. Why not a modified detention camp, functioning similarly to our C. C. C. Camps, for the employment of prison-released psychopaths? They could be paid and work under a military discipline. Recreational centers could be built, Army routine followed, with service rules and laws. The camp physician might well be a psychiatrist, who would aid immeasurably in supervision, advising and treatment of these unfortunate individuals. I cannot help but feel that such a protected life would be the ideal haven for selected psychopaths, enabling them to develop both mentally and physically, and giving them the satisfaction of feeling that at last they are able to lead worth-while lives, earning their way, yet, at the same time, not in conflict with society.

In closing I wish to recall an ever true dictum laid down by J. McKeen Cattell:
"Heredity determines what one can do,
Environment determines what one does do."

DISCUSSION

Dr. E. M. Robards (Jackson): I happened to be on that service myself for one and a half years and had sufficient contact with the particular group Dr. Pargen spoke of to get an idea of how they were handled in an institution.

In all the diseases we have heard of today, some method of treatment has been outlined. This is apparently one to which there is no particular approach for handling at the present, but I do believe that society has necessarily to be protected from this particular type of individual. Any man whose life is constructed upon destruction, who is a pathologic liar, who is totally unable to meet and adjust himself to ordinary social conditions, becomes a social menace.

Dr. Pargen gave the various types of psychopathic personalities. However, the one we have to treat most often, I am quite sure, is the type whose outstanding symptoms are total lack of judgment; I do not think they have the slightest idea of forming a judgment in any sense at all. They will do things with total disregard for the consequences of their act. Any court will be justified in handling these cases, and, in the instances where the line of demarcation between insanity and sanity is difficult to make, what are we to do with them? You will not send the insane man to the penitentiary. Therefore, I think that this appeal should be made to the profession in general, to become mental disease conscious, with particular reference to that type, so that when these individuals are encountered the doctor will advise the family accordingly, with the idea of developing them into useful citizens or at least protecting society against them.

Look in the newspapers any day and you will see some atrocious crime committed by these psychopaths. Some of you may remember about twenty years ago when the first "thrill" crime was committed in this country: Two boys killed another boy for the thrill of it. The discussion was, were they psychopaths or not. They were confined in prison up until a few months ago, when the same urge that caused both of them to commit this crime was responsible for one of these individuals attempting a similar attack on a fellow prisoner who killed him as a result. The constitutional imbalance that caused the first crime was responsible for the urge that prompted the second crime.

You do not know where, when, or how these people will commit some outrage, so it becomes our duty to arrive at some plan that will protect society from them.

Dr. C. S. Holbrook (New Orleans): I especially want to refer to the first part of the paper which I think was decidedly a classic. The description of these individuals was splendid. The second part was idealistic, for it will be a long time before we shall be able to do what Dr. Pargen suggests. He is correct, however, in that we should keep these individuals in an environment which is not too demanding, where they can be controlled. I wish this were possible, but at the present we just can not do it. And, besides, it would be difficult to say where the majority of people will be, whether on this side of the wall or on the other side.

Dr. Pargen referred to the delinquent as being the most troublesome type of psychopath. We, in a community like New Orleans, see also the inadequate personalities in great numbers. They are the fellows we have to carry on our backs, so far as the Community Chest is concerned. These people are not able to adjust themselves, have no stick-to-itness, and can not make a living for they do not want to work. Of course, they do not give much real trouble so far as the police are concerned, but they create a very definite community problem.

The constitutional psychopath and the constitutional psychopathic inferior belong to the ill-defined, but nevertheless distinct, group of abnormal individuals; they represent a type of deficiency, and should be considered as those with physical defects such as microcephalus, cleft palate, congenital blindness, or deafness. They are also related to the intellectual deficiencies, that is, the feeble-minded group. The psychopaths, while physically and intellectually normal, are deficient morally and emotionally; they are born that way, and seldom can anything very definite be done to change this constitutional deficiency. They must be placed in environment where they can be controlled, but at the present time this type of mental abnormality can not be adequately dealt with.

Dr. R. McG. Carruth (New Roads): Just after my graduation, in 1880, I was placed in charge of 300 women in an insane asylum in the City of Baltimore. I afterwards became jail physician and continued so for a number of years. Later I was elected coroner and served in this capacity for many years. My early impression was that insanity was rapidly on the increase. I discussed this question with my confrères and some did not agree with me. Along in 1880, in the jail in Pointe Coupée Parish, an old jail and always crowded, there would be occasionally one insane negro. After a year or two, there would be one all the time and two or three occasionally. Time passed, and there would be two and three all the time and occasionally four and five. After twenty-five years, the same officers often served for a long time, I went one day to the chief deputy sheriff, who had charge of the jail, and asked him: "How many people have you in jail today?" He looked over the list and said that there were thirteen. "How many criminals?" I asked. It seemed to take his breath away when he answered: "Six criminals, more or less minor offenders, and seven insane." The trouble was that the state was not able to erect sufficient institutions.

In the paper I read before this body in 1919, I called attention to the great number of insane persons who were flooding our asylums. We were not able to house these people and at that time we had more or less filthy jails. It was considered by a great many people that the sooner these people died, the better for the community and their families. They did not keep them in jail. They turned them out as soon as they became better, and they were allowed to go home. Well, after about six months, when the patient was unable to adjust himself to a home life and to business, he soon relapsed and was returned to the institution.

Dr. Walter J. Otis (New Orleans): This paper should be given careful study by the doctors who return to their home towns. In every community there are these people who run afoul of the law. The psychopath is one because of the fact that he does not profit by experience, no matter how bitter the experience is.

The only way for treatment is, as Dr. Pargen says, to concentrate them in one locality under military discipline. During the World War we had no trouble with psychopaths in the Army, but we do have in the civilian population.

Dr. T. H. Pargen (In closing): I want to agree heartily with Dr. Holbrook that my suggestion was very idealistic. If we consider the situation, we might say that in 1790, when Pinel was going to erect asylums for the insane, possibly his confrères considered that scheme idealistic too.

MYASTHENIA GRAVIS

REPORT OF A CASE TREATED WITH ORAL PROSTIGMIN*

L. L. CAZENAVETTE, M. D.
NEW ORLEANS

The recent advances made in giving a more definite understanding of the etiology and the correct treatment of myasthenia gravis, and the favorable response obtained in a patient under prostigmin therapy, prompt me to call your attention to this disease.

HISTORY

Osler[1] defines myasthenia gravis as "a disease with fatigue symptoms in the muscular system, due to failure of innervation without definite changes in muscles or nerves." Thomas Willis,[2] in 1685, in his "Practice of Physick" was the first to record a case, now recognized as one of myasthenia gravis. Wilks,[3] in 1877, gave a detailed account of a case of "bulbar paralysis without anatomical changes," and Erb[4] in the following year, reported a peculiar form of bulbar disease in which the patient exhibited the now classic myasthenic syndrome. In 1893, the disease was established as a clinical entity by Goldflam[5] and was referred to as the "Erb-Goldflam symptom complex." Jolly,[6] in 1891, had proposed the term "myasthenia gravis pseudoparalytica," which is now in general use.

In the first decades of knowledge of the disease, most of the cases were reported by German and Austrian writers, later by

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society at New Orleans, May 4, 1938.

British and French, and still a great deal later, by American investigators. Until recently, myasthenia gravis was regarded as of extremely infrequent occurrence, but the advent of improved forms of therapy has witnessed the reporting of so many cases that it can no longer be listed in the category of rare diseases.

COURSE OF THE DISEASE

At the onset, muscular weakness is first evidenced by ptosis of the upper eyelids, usually noticed at night, after fatigue, and disappearing after a night's rest. Progressively, there is weakness of the jaw muscles and difficulty in phonation, the speech becoming blurred and indistinct when the voice is used for long periods; there is dysphagia with regurgitation of food or liquids through the nose. Complete remission of these symptoms may intervene for periods varying from days to years, or the disease may progress without abatement to the point where there is such a degree of muscular weakness that walking or any muscular effort is impossible. The patient is bedridden, unable to eat, dehydrated, and death seems imminent. However, sometimes without treatment, the strength of the patient may gradually return, so that in a few weeks, he regains some of his former muscular power, although rarely, in untreated cases, is he sufficiently strong enough to work. In some cases, the disease progresses rapidly without remission and involvement of the respiratory muscles, with consequent attacks of dyspnea, may end in death.

Only within the last few years has the prognosis for patients with myasthenia gravis been anything but unfavorable. Of the 180 cases collected by McCarthy,[1] 72 were fatal. Goldstein[7] reported 26 deaths in 38 cases. Of the 60 cases collected by Campbell and Bramwell[8], 23 died. Boothby[7] reported that of the 65 patients treated at the Mayo Clinic, 13 died, which shows a lower mortality rate under modern therapy.

The diagnosis is easy in the cases with more marked symptoms. The muscular weakness and rapid fatigability, the ironed-out, blank expression of the face with ptosis of the eyelids and inability to smile or pucker up the lips to whistle, are all characteristic. But when the symptoms are not so pronounced and there is only slight muscular weakness the diagnosis is more difficult.

ETIOLOGY

The etiology of myasthenia gravis still remains clouded in a certain degree of obscurity, although researches conducted in the last decade have thrown some light upon the subject. The sexes seem to be equally affected. The disease appears in children, in middle life, and even after 60 years of age. Rothbart[8] reported four children, brothers of one family, who were afflicted with the disease, thus giving the impression that heredity may be a factor.

Until recently, the pathogenesis of this disease has been a matter of conjecture. The endocrines, the thymus, the adrenals, the pituitary, and the parathyroids have all been implicated at one time or another. Clinical experience has proved that syphilis plays no role in its etiology. Lately, Butt[10] found streptococci in the muscles of myasthenic patients at autopsy. Boothby[7] and his associates cooperated with Rosenow in attempting to determine whether or not the toxic factor is of microbic origin, in the belief that there are many phases of the disease which suggest that such may be the case. Other investigators believed that infectious diseases, such as typhoid fever, scarlatina, or influenza, produced a poison which acted upon the lower motor neurons and interfered with their activity without necessarily causing a discoverable change in structure.

Even the earliest investigators noted that upon autopsy, no lesions were found, nor was there any structural change in nerves or muscles which could account for the symptoms. The most consistent post-mortem findings are lymphorrhagic infiltrations of the skeletal muscles and sometimes of the myocardium, but these findings are not peculiar to myasthenia gravis.

Metabolic disturbances were given consideration as probable etiologic factors. Since a mild creatinuria was observed in many cases, it was suggested that a diminished metabolism of creatine and creatinine by the muscles might be a causative agent. Cooke and Passmore[11] concluded that the biochemical lesion appeared to be not an inability to form creatine from its precursors, but an inability to metabolize creatine properly and especially to effect the normal conversion to creatinine. Wade[12], who found the excretion of these substances within normal limits, was of the opinion that the abnormality might lie in the utilization of the formed substances rather than of the formation of creatine and creatinine from their precursors. Nevin[13] also reported that he could find no fault in the chemical mechanism of muscle contractions; the metabolic changes were secondary and could not be considered of etiologic origin.

The present view of the etiology of myasthenia gravis had its inception in the work of Dale[14] and Feldberg[15], who demonstrated the role of acetylcholine as the chemical transmitter of nervous impulses at the myoneural junction. Then, a year later (1935), Pritchard[16] reported that if the ulnar nerve of a patient with myasthenia gravis was stimulated electrically, a characteristic myographic record would be obtained which differed strikingly from that of normal persons, and from that of any cases of muscular weakness other than that of myasthenia, and offered confirmatory evidence that the weakness in this condition is due to a disturbance of the myoneural junction.

The working hypothesis upon which the treatment of this disease is now based is that the muscular weakness is due to faulty transmission of nerve impulses to the muscles at the myoneural junction, either because of the production of insufficient amount of acetylcholine, or because of increased destruction of acetylcholine at the myoneural junction by choline esterase. Upon the assumption of the correctness of this theory of acetylcholine destruction, the present day treatment of myasthenia gravis rests, and the results obtained with prostigmin offer confirmatory evidence of its soundness.

TREATMENT

Until the last few years, the treatment of myasthenia gravis was conducted upon an empirical basis. Thyroid extract, suprarenal gland, pituitary extract, antuitrin-S, have been tried with little or no effect. X-ray of the thymus was found by some investigators to be beneficial and by others to be of no avail. Strychnine, mercury and the iodides were given with negative results. In the belief that the administration of amino acids might increase the creatine content of the muscles and thereby heighten their contractile powers, glycine therapy has been used with varying degrees of success. Ephedrine hydrochloride proved of great value to Harriet Edgeworth[17], who had been for eleven years a bedridden victim of myasthenia gravis. Others have had favorable results with this drug either alone or in combination with glycine.

In June 1934, Mary B. Walker[18] reported that because the abnormal fatigability in myasthenia gravis had been thought to be due to curare-like poisoning of the motor nerve endings or of the myoneural junctions in the affected muscles, she had tried the effect of physostigmine salicylate in hypodermic injections (1/60 to 1/45 gr.) and that it did produce a strong though temporary improvement. Her success with this drug led her to try an analogous drug, prostigmin[19], which had been synthesized by Aeschlimann and Reinert[20] in 1931. She found that prostigmin (in hypodermic injections of 2.5 mgm. two to five daily) relieved the symptoms, had a less depressing effect upon the heart, was less productive of nausea and vomiting, and was probably safer in large doses than physostigmine. Atropine given simultaneously prevented colic and nausea without affecting the action of prostigmin.

The results obtained by Walker were confirmed by Pritchard[16], Laurent[21], and others.[22, 23] Potassium chloride was also used as an adjunct to prostigmin with varied success[24]. Reports up to this point indicated that the value of hypodermic injections of prostigmin in the treatment of myasthenia gravis was acknowledged and that this mode of therapy was considered superior to any yet tried. But the experiments continually being made as to the beneficial efforts of various adjuvants showed that there were some difficulties yet to be overcome, i.e., the gastrointestinal and cardio-respiratory symptoms which some observers found to be attendant upon the hypodermic administration of prostigmin, and the problem of treating patients over long periods without hospitalization or frequent visits to the office for injections.

ORAL ADMINISTRATION OF PROSTIGMIN

In 1935, Everts[25] was the first to report the treatment of two patients with myasthenia gravis by the oral administration of prostigmin, which he declared was safe, did not produce gastric or intestinal disturbances, could be continued indefinitely, relieved the patients of symptoms, and restored them to health. His observations were confirmed by Laurent and Walker[26], Mitchell[27], and Smith[28]. Viets, Mitchell and Schwab[29], reported that through the oral administration of the drug, by carefully spacing the doses, patients could be maintained upon a degree of muscular efficiency better than with any other form of treatment and without ill effects. Harvey and Whitehill[30] concurred in this opinion.

PROSTIGMIN AND QUININE IN THE DIAGNOSIS OF MYASTHENIA GRAVIS

Viets and Schwab[31], as well as Harvey and Whitehill[30] called attention to the value of prostigmin as a means of aiding in the differential diagnosis between myasthenia gravis and other myopathies and neurologic disorders. They found that prostigmin produced immediate improvement in those patients with myasthenia gravis, whereas those with other disorders were not so benefitted. Kennedy and Wolf[32, 33] offered evidence which marked a still further advance in prostigmin therapy. They found that quinine improved patients with congenital and atrophic myotonia whereas it aggravated the symptoms of myasthenic patients. Upon giving prostigmin to these doubtful patients after the administration of quinine, the beneficial effect on the myasthenic patients was made more apparent, whereas the ill effect on those with myotonia was made manifest by aggravation of symptoms. Harvey and Whitehill[34] confirmed these findings and concluded that in contrast with the equivocal effects produced by prostigmin before quinine, the results elicited by a single dose of prostigmin after the administration of quinine were of conclusive diagnostic importance.

CASE REPORT

In the fall of 1923, Mr. X., white, aged 49, merchant, consulted me because of an impairment of speech, double vision, weakness in the act of mastication, and difficulty in keeping his eyes open. He said that these complaints had been coming on for several days, if not weeks, and that they were always more marked in the latter part of the day. He had noticed no weakness in the limbs or in other parts of the body.

Neurologic examination was negative for any organic manifestations. The laboratory tests were negative for lues; nevertheless, although myasthenia gravis was suspected, he was given a mild course of antiluetic treatment and also mercury, iodides, and strychnine. His symptoms gradually subsided and in the course of a few months he was apparently free of all symptoms of his malady.

In 1926, he returned with the same complaints. He stated that he had not been completely free of weakness and fatigue about the eyes and face since his first episode, but that the fatigue and weakness were getting more pronounced and were occurring in the earlier part of the day. The weakness in speech had reached such a point that it had become necessary for him to dictate to his secretary in the early business hours of the day, otherwise the weakness would come on and prevent him from speaking. To overcome some of the difficulty in speech, he would support his lower jaw with one hand. He also noticed that supporting the jaw in this manner helped him to keep his eyes open.

After another neurologic examination had proved negative for any organic cause, the definite diagnosis of myasthenia gravis was made. At this time, he presented bilateral ptosis, diplopia, an ironed-out face, dropping of the chin, all symptoms which appeared after exertion of any sort and diminished after a period of rest. He was told the nature of his condition and the necessity for rest and avoidance of any exertion, and was given strychnine sulphate tablets, gr. 1/30, to be taken four times a day.

Mr. X got along fairly well for a long period, but in 1935, the myasthenic syndrome again came to the fore and he consulted me once more. He then stated that though he had not felt completely well since the attack of 1926, and had had more weakness some days than others, he had only noticed an increased difficulty during the past few weeks.

Examination revealed that the symptoms were more pronounced than during any previous attacks, so much so that he was again wont to hold his jaw with one hand in the act of talking and masticating, which acts had become almost impossible without such assistance. He also experienced great difficulty in swallowing, especially solid food. Prolonged rest and strychnine gave some relief but there was little response to any medication, which included the iodides.

Mr. X then decided to take a vacation and to go to Hot Springs, Arkansas, for rest and treatment. He consulted Dr. William R. Smith of that city, who also recognized his condition as myasthenia gravis, and in November of that year gave him injections of antuitrin-S. After receiving some twenty injections, daily at first and then every other day, Mr. X returned to me for continuance of the treatment. He received injections of antuitrin-S, in doses of 1 c.c. hypodermically, three times a week for 35 injections. The myasthenic symptoms would appear to subside for a time and then again to reappear, but at no time was there complete remission of symptoms. He also received at that time glycine medication in the form of glycocoll elixir, as well as ephedrine hydrochloride, for several weeks, all without material benefit.

In October 1936, he again showed a more severe recurrence of the malady. He was then given prostigmin, 1 c.c. by needle, in the early morning. The effect of this drug was immediate and lasted for several hours. It permitted him to speak more easily, to masticate and swallow with more ease, and helped him to keep his eyes open. He was also given at the same time atropine sulphate, 1/150 gr. t.i.d., for relief of intestinal symptoms when necessary.

The difficulty of coming for treatment caused me to change the method of administration and to give prostigmin by mouth, as advised by Everts. Mr. X has now been taking prostigmin tablets by mouth since December 1936, and has been getting along very well under such treatment. He has found at present that taking the tablets, one at 6 a. m., one at 8:15 a. m., one at 10 a. m., one at 11:30 a. m., one at 2:15 p. m., one at 4:15 p. m., and one at 7:30 p. m., gives him better satisfaction. Prostigmin is supplied in ampoules of 1 c.c. for hypodermic use and in tablets of 15 mgm. for oral use. The patient is now taking a minimum of eight tablets of 15 mgm. a day without ill effects. It can certainly be said that this form of medication has been more helpful to this patient than any other treatment given, including ephedrine and glycocoll elixir.

DISCUSSION

A careful survey of the literature on the treatment of this disease, which up to a few years ago was considered unapproachable from the therapeutic point of view, and the results obtained in one case, lead me to confirm previous observations that there is in prostigmin a remedy which is of great assistance in the management of myasthenia gravis. I believe that the ease of its administration by the oral method places it far beyond any other medication of choice in this heretofore intractable disease.

Another point of importance is the use of prostigmin as a means of diagnosis between myasthenia gravis and other conditions causing weakness and fatigability. It is definitely accepted that if a patient with these symptoms, especially after exertion, is not relieved immediately by the administration of prostigmin, that patient does not suffer from myasthenia gravis.

The subcutaneous administration of prostigmin (one ampoule) as put up by Roche is to be reserved for purposes of diagnosis and for the relief of the most severe symptoms, while the drug in the tablet form (15 mgm.) is to be used orally and so regulated as to time and dosage as to satisfy the condition of the individual patient.

SUMMARY

A digest of the recent literature on myasthenia gravis, its probable cause, the method of diagnosis, and its treatment with prostigmin is here given.

A report of one case of myasthenia gravis of fifteen years' duration, and the consistently favorable results obtained by the use of prostigmin during the last seventeen months, is submitted.

CONCLUSIONS

Myasthenia gravis is no longer to be considered as a condition for which no help can be offered to its victim.

It is suggested that prostigmin be administered for diagnostic purposes to those patients who complain of undue fatigability after exertion, as these patients may prove to be affected with myasthenia gravis in a mild form.

Prostigmin by parenteral, or subcutaneous, or preferably by oral administration, is the drug par excellence for the alleviation of the symptoms of myasthenia gravis. It may be continuously used for an indefinite period of time without diminution of its effects and without serious untoward results.

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DISCUSSION

Dr. L. A. Golden (New Orleans): Dr. Cazenavette has ably presented most of the facts that are known about this interesting disorder and has left but little for the discussor to add.

Careful studies of myasthenia gravis reveal it to be neither a muscular atrophy nor a muscular dystrophy. Its pathology seems to have found a resting place for the present at the "myoneural junction." Foster Kennedy and Alexander Wolf, in their recent clinical work, have found that when patients with myotonia were treated with prostigmin, it aggravated their condition; whereas, patients thus treated for myasthenia gravis were definitely relieved. Quinine, if given to patients with myotonia, results in improvement, whereas in myasthenia gravis it aggravates the disorder. There seems to be an antagonistic action between the two substances quinine and prostigmin. It was thought that myasthenia gravis might be related to disturbances in the metabolism of muscle. In studies of creatine and creatinine undertaken so far, there has been no such evidence of creatine or creatinine disturbance in myasthenia gravis.

In dealing with clinical manifestations of the disorder, it is quite obvious that most textbook descriptions are not especially true to life. I was allowed the privilege of studying 14 cases at the National Hospital in London. In stage one, the ocular symptoms are prominent. As the condition proceeds, the trunk and upper extremities become affected.

A practical point is that the ophthalmologist will see the patient with myasthenia gravis long before the medical man or the neurologist. If the ophthalmologist is on the lookout, the neurologist should see myasthenia gravis in its early stages, because eye signs are particularly present and numerous. Seventy-eight per cent have eye symptoms, and often a case may have eye signs which disappear and eighteen years later, as in one case I saw, they may appear again in connection with other signs of myasthenia gravis.

I think it is a hopeful sign that we have finally found a medicine that seems to help us in treating myasthenia. Unfortunately, there is still a strong conviction that the final outcome is the same whether a case is treated with prostigmin or not. At least, it is of help while they are suffering from extreme weakness.

Another practical clinical point is to warn the myasthenic patient against emotional outbursts which may cause sudden paralysis of respiratory muscles and sudden death. While previously the cause of sudden death was thought to be respiratory failure, that does not seem always to be the case. James Collier reported two patients who suddenly died while chatting quietly. I hope that further studies of myasthenia gravis and its treatment may lead to further knowledge of practical import in prolonging the life of such patients.

Dr. L. J. Dubos (New Orleans): I would like to ask Dr. Cazenavette if he has to increase the dosage of prostigmin when continuing its use in chronic cases. I had occasion to treat a case of myasthenia gravis about a year ago; the effect of this drug was spectacular in the beginning, but this good result was only temporary. After two or three weeks, I found out that I had greatly to increase the dosage to produce effects; and later, the prostigmin proved of practically no value.

Dr. A. A. Herold (Shreveport): I was under the impression that prostigmin and atropine are physiologically antagonistic in their action and noticed that Dr. Cazenavette mentioned they were used together. I wonder what effect atropine has on these patients?

Dr. L. L. Cazenavette (In closing): The time set for the reading of my paper is such that it was impossible for me to include all important points on this very important subject.

Many of us present here today will recall how utterly helpless we were in the past, and even to a very few years ago, when confronted with a patient afflicted with myasthenia gravis, there was then nothing we could do that would, in any way, be of benefit to these unfortunates. The discovery of the beneficial action on the symptoms of this disease by the use of prostigmin, has created a new era in the management of this intractable disease.

Not only are we able, at this time, by the proper and continuous use of prostigmin to render the patient with myasthenia gravis more comfortable, but in many instances it has been possible for the patient to return to his former occupation. It is to be remembered that these patients are frequently affected with an inability to swallow and their very existence depends upon the rapid and beneficial action of a drug which will permit the immediate functioning of the muscles of deglutition. The hypodermic or intramuscular administration of one ampoule of 1-2000 solution of prostigmin methylsulphate will at once relieve the situation. Again it is to be remembered that prostigmin is of use as a diagnostic agent. It has been proved that this drug will relieve the weakness in cases of myasthenia gravis only. Cases of muscular weakness or paralysis from causes other than myasthenia gravis, including the myopathies, do not respond beneficially under its use. For diagnostic purposes one ampoule of the 1-2000 solution of prostigmin methylsulphate may be administered subcutaneously or intramuscularly. The response in myasthenic cases is rapid and at once settles the diagnosis.

The patient whose case is here reported has been taking the prostigmin tablets per oram for over a year. He uses from ten to twelve tablets a day, sometimes more. The number of tablets depends greatly on his activities of the day. He has always found relief and has not had any untoward symptoms.

I understand that even though a greater number of tablets is taken orally per day, it is possible for the patient to diminish considerably the quantity of tablets per day and get along well with this smaller quantity.

THE DIETETIC AND INSULIN MANAGEMENT OF THE JUVENILE DIABETIC*

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INTRODUCTION

It has been said that the life of man is a short blooming and a long withering. In order to make this prophecy come true, then the blooming age of diabetic children must be very carefully supervised in order to insure them any degree of immunity from an early death. At the present time, this is much more easily accomplished than in the past because of the advancements made in new insulin therapy, in dietetic management, and in the educational routine prescribed.

The management of diabetes mellitus in childhood takes into consideration, growth, education, and factors that are more dominating than in the adult, such as severity, instability and progression. These problems make an absolutely strict routine imperative. Any relief from this burden carried by diabetic children and their parents would certainly be welcome, provided, of course, that the diabetes would remain under satisfactory control. It has been said there was no improvement on insulin, but there can be and there is an improvement in insulin.

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society, New Orleans, on May 3, 1938.

INSULIN

During the past two years, there have been a great number of reports on protamine insulin and modifications thereof. The first reports of Hagedorn and his co-workers[1] from Copenhagen, and of Root[2] and Sprague[3] and Freund[4] and their co-workers in this country gave us the observation of the slower rate of absorption of protamine insulin, with its slower and more prolonged action in reducing the blood sugar, which lessened the fluctuations of the blood sugar level, producing fewer and milder hypoglycemic reactions with a reduction in the number of doses given per day. The new protamine zinc insulin seems to replace the old without difficulty. The lengthened hours of diabetic control should have an effect upon the prevention of future degenerative complications.

The ideal of attainment is not only to produce a normal blood sugar throughout the entire twenty-four hours without either insulin shock or glycosuria, but also to produce normal development and growth, and a living happy existence, brought about by the proper management of their diabetes.

Protamine zinc insulin is indicated particularly in juvenile diabetics, in insulin sensitive patients, in cases requiring three or four injections of unmodified insulin a day, and in those who cannot be satisfactorily controlled with unmodified insulin.

The time of administration is best usually from an hour to two hours before breakfast if protamine zinc insulin alone is used. If unmodified insulin is also necessary, the time must be within a half hour before breakfast. The unmodified insulin here takes care of breakfast before the protamine insulin begins to be absorbed, and the latter then is effective enough by noon to care for the lunch and evening meals. Due to the continued absorption of the protamine, a low all night blood sugar is present and very early morning reactions frequently occur.

Each patient requires individualization of dosage as determined by frequent fractional urine tests and blood sugars. The insulin required to keep the urine practically sugar free and the blood sugar normal varies with age, weight, activity, stability of the disease, intercurrent complications and progression of the disease. It is better to regulate the dose of insulin to the food taken rather than vice versa. The "W" shaped blood sugar curve of the juvenile diabetic, with its three high points and two low ones, levels itself out approximating the curve of the normal.

A PROTAMINE ZINC INSULIN PROGRAM FOR DIFFERENT PATIENT GROUPS

1. New patients with the insulin requirement unknown are best treated in a hospital for a week. In desugarizing a new patient the initial dose of protamine zinc insulin varies, (see table 1) from 10 units at five years of age, to 20 units from five to 10 years of age and 20 to 30 units over 10 years of age. This dosage may be increased every three or four days up to 40 or 50 units, but when 40 or 50 units are necessary then it is often advisable to give less protamine zinc insulin and to give a supplementary dose of unmodified insulin.

TABLE 1

Protamine Zinc Insulin Program in a New Patient with the Insulin Requirement Unknown

Age	Protamine zinc insulin	Diet in calories	Ratio of C:P:F
1-5	10 units	1 yr.-1000 5 yr.-1400	C 2. 0 P 0. 9 to 1.0 F 1. 0
5-10	20 units	1600-1800	C 2. 0 to 2.5 P 0. 9 F 1. 0
10-15	20-30 units	1800-2000	C 2. 0 to 2.5 P 0. 9 F 1. 0

One is able to judge whether protamine zinc insulin alone is necessary, or whether accessory doses of unmodified insulin are needed by the blood sugar. Usually the fasting morning blood sugar is normal with protamine zinc insulin and the loss of control shows up in the 11:30 a. m. or in the 3:30 p. m. blood sugar, and this indicates the need for the morning accessory dose of unmodified insulin. The two doses of insulin are given separately but at the same time, the unmodified insulin being given first, and then at a different site, the protamine zinc insulin. The unmodified insulin can be frequently omitted after a few weeks.

Some children do badly when the treatment is changed from the unmodified to the modified insulin, because the blood sugar does not get under control for several days and this change is a gradual one, and sufficient time must be allowed for stabilization with protamine zinc insulin. Any changes should be made gradually and infrequently.

TABLE 2

Method of Changing from Unmodified Insulin to Protamine Zinc Insulin in Mild Diabetes

Date	A. M.		Noon	P. M.	Urine test before meals		
1937	Unmodified insulin	Prot. zinc insulin	Unmodified insulin	Unmodified Insulin	A. M.	Noon	P. M.
6/1	16		0	0	0	0	0
7/1	0	14	0	0	0	+	+
7/2	0	14	0	0	+	tr	tr
7/3	0	14	0	0	tr	0	0
7/4	0	14	0	0	0	0	0
7/15	0	14	0	0	0	0	0
7/30	0	14	0	0	0	0	0
8/15	0	13	0	0	0	0	0
8/30	0	12	0	0	tr	0	0
9/15	0	13	0	0	0	0	0

It is usually easy enough to manage a case in the hospital but the real test comes when the child is sent home where he should lead a normal life of activity. The patient and physician alike must not become discouraged just because diabetic control cannot be brought about in as short a space of time as with unmodified insulin.

It is fairly easy to obtain a normal fasting morning blood sugar with the new insulin, but it is often difficult to do so in the daytime without temporarily at least giving a supplementary dose of unmodified insulin, or without spreading out the diet. When the diabetes is controlled, an improvement in this group or in the groups following may be anticipated either to an increase in tolerance, or from a cumulative effect of the protamine zinc insulin, and small dosage reductions may be made every few days while no glycosuria nor hyperglycemia occurs. The optimum dosage will be gradually attained, and this will prove valuable in preventing reactions.

2. In patient needing only one dose of unmodified insulin, under 30 units daily, (see table 2) substitution of protamine zinc insulin in the same dosage or slightly less will suffice. Whereas with the single dose of unmodified insulin the only time reactions were feared was before lunch, now the reactions will occur most likely before breakfast.

TABLE 3

Method of Changing from Unmodified Insulin to Protamine Zinc Insulin in Moderate Diabetes

Date	A. M.		Noon	P. M.	Urine test before meals		
1937	Unmodified insulin	Prot. zinc insulin	Unmodified insulin	Unmodified insulin	A. M.	Noon	P. M.
5/1-6/23	18		0	11	0	0	0
6/24	4	20	0	0	0	+	+
6/25	2	22	0	0	+	+	+
6/26	0	24	0	0	tr	0	0
6/27	0	24	0	0	0	0	0
6/28	0	24	0	0	0	0	0
6/29	0	24	0	0	0	0	0
6/30	0	24	0	0	0	0	0

3. Patients needing multiple doses of unmodified insulin. In a moderate diabetes where only an a. m. and p. m. dose are necessary using a total of only about 30 units, a morning dose of two-thirds of the day's total of protamine zinc insulin and about 30 per cent of the day's total of unmodified insulin, are given a half hour before breakfast. A gradual change to one dose of protamine zinc insulin is accom-

TABLE 4

Method of Changing from Unmodified Insulin to Protamine Zinc Insulin in Moderate Diabetes

Date	A. M.		Noon	P. M.	Urine test before meals		
1937	Unmodified insulin	Prot. zinc insulin	Unmodified insulin	Unmodified insulin	A. M.	Noon	P. M.
8/1-8/31	22	0	0	12	0	0	0
9/1	20	4	0	10	0	0	+
9/2	18	8	0	8	+	0	+
9/3	16	12	0	6	tr	tr	tr
9/4	14	16	0	4	tr	0	0
9/5	12	20	0	2	0	0	0
9/6	10	22	0	0	tr	0	0
9/7	6	24	0	0	tr	0	0
9/8	4	25	0	0	0	tr	0
9/9	2	27	0	0	0	0	0
9/10	0	29	0	0	0	0	0
9/11	0	29	0	0	0	tr	0
9/12	0	29	0	0	0	0	0
9/13	0	29	0	0	0	0	0
9/14	0	29	0	0	0	0	0
9/20	0	29	0	0	0	0	0
9/30	0	28	0	0	0	0	0
10/5	0	28	0	0	0	tr	0
10/15	0	28	0	0	0	0	0

plished by reducing each day the unmodified insulin two units and increasing the other two units (see table 3). A rough estimate of 10 per cent to 20 per cent reduction in insulin requirements can be made. In Table 4 is shown another and often better method for changing from unmodified to protamine zinc insulin. Here the unmodified insulin is reduced two units a day from both the a. m. and p. m. doses, and these four units are replaced by protamine zinc insulin. There is often less tendency here to have an upset in the diabetes. Table 5 shows the method of changing from unmodified insulin to protamine zinc insulin in a very severe diabetic requiring four doses of the former a day. In these patients the noon and midnight doses are stopped at once, and approximately four-fifths of the day's total is given. Of this, about one-third is given as protamine zinc insulin and two-thirds as unmodified insulin, the latter being equally divided between the a. m. and the p. m. doses. Each day each of these doses is decreased two units and the morning dose of protamine zinc insulin increased this four units, until it can be roughly estimated that three-fifths of the former total dose may be given as protamine zinc insulin, and one-fifth of the total as unmodified insulin before breakfast, omitting the evening dose.

TABLE 5

Method of Changing from Unmodified to Protamine Zinc Insulin in Very Severe Diabetes

Date 1937	A. M. Unmodified insulin	A. M. Prot. zinc insulin	Noon Unmodified insulin	P. M. Unmodified insulin	Midnight Unmodified insulin	Urine test before meals A. M.	Noon	A. M.	Midnight
8/1	28		12	20	10	0-+	0-+	0-+	0
8/2	22	22	0	18	0	0	0	+	tr
8/3	20	26	0	16	0	+	tr	tr	0
8/4	18	30	0	14	0	+	tr	+	0
8/5	16	34	0	12	0	tr	0	tr	0
8/6	14	38	0	10	0	tr	0	0	0
8/7	12	42	8	0	0	+	0	0	0
8/8	10	46	0	6	0	tr	0	0	0
8/9	10	48	0	4	0	0	0	0	0
8/10	10	48	0	2	0	0	0	0	0
8/11	10	48	0	0	0	0	0	0	0
8/12	10	48	0	0	0	0	tr	tr	0
8/13	10	48	0	0	0	0	0	0	0
8/14	10	48	0	0	0	tr	0	0	0
8/15	10	48	0	0	0	0	0	0	tr
8/20	10	48	0	0	0	0	tr	0	0
8/25	10	48	0	0	0	0	+	0	0
8/30	12	48	0	0	0	0	0	0	0
9/7	12	48	0	0	0	0	0	tr	0
9/14	12	48	0	0	0	0	0	0	0

Discontinuance of the unmodified insulin is not advisable when over 40 to 50 units of insulin are used daily, because of the danger of early morning reactions. Hypoglycemic reactions before lunch indicate a reduction of the unmodified insulin whereas an early morning reaction means a reduction in the protamine zinc insulin.

Occasionally it is necessary to give, in addition to the morning dose of protamine zinc insulin with a supplementary dose of unmodified insulin, a night dose of protamine zinc insulin. In these cases it is advisable to change to Hagedorn's schedule of giving an evening dose of protamine zinc insulin and a morning dose of unmodified insulin with two-fifths of the day's carbohydrates at breakfast, two-fifths at lunch and one-fifth at supper.

DIET

There are two postulates I would like to make: A normal diet cannot be given without insulin, and a diabetic child cannot be expected to adhere to an inadequate diet. The diet is still the most important factor in treatment even though insulin is pushing it for first place.

Various methods may be used in prescribing the diabetic diet.

1. *The qualitative diet*: Very rarely is there found juvenile diabetes so mild that if the patient will eliminate certain foods from the diet, this alone will suffice in

controlling the glycosuria, the patient here secreting enough insulin to care for this amount of carbohydrate.

2. *The quantitative diet*: It may be prescribed in three ways: (1) Occasionally it is possible to designate the amount of food to be used as measured by household measurements as one-half cup, or a portion of food so many inches in measurements. This method is never very satisfactory and is used only when it is not practical to use the weighed diet. (2) There are two weighed diets, the fixed weighed diet, and the figured weighed diet. In the fixed weighed diet, the patient weighs out the food, but the diet has been figured and prepared for the patient by the doctor. This diet permits only limited substitutions and changes, and rapidly becomes tiresome and encourages the temptation to cheat. The figured weighed diet differs only in that it is figured by the patient himself, or the patient's mother and this is the most satisfactory method for handling the diabetic diet. The patient, or the one in charge of the diet, is taught to take a prescription of so many grams of carbohydrate, protein, and fat and so select foods from the diet tables that the foods in the quantities so selected equals the diet prescription. After a few months the one preparing the diet has become so experienced that he can figure any combination of foods desired, and through practice has memorized many of the common foods and can estimate quantities of food so that he can approximate the diet very accurately, without the use all of the time of the food tables or scales. It is thus easier to use foods in season and the variability and palatability of the diet makes it so much easier to follow strictly the diet prescription. The free diet of Lichtenstein[6] is not advocated. Eleven factors are involved in the construction of the optimal diet for diabetic children: carbohydrate, protein, fat, calories, vitamin, mineral, bulk, water, the ketogenic-antiketogenic ratio, the growth and developmental response of the child, and the child's satisfaction with the diet. It is with the first three we are chiefly concerned, but it is essential to good health that the other factors be given consideration.

In general, the three meals can be about equally divided, and then food shifted from one to the other as desired in order to balance the blood sugar and to keep the urine sugar free. Part of the meals may be given mid-morning, mid-afternoon, and at bedtime and this is especially valuable in children as it produces a more even distribution of the food and results in a more even blood sugar; there is often less tendency to have reactions, and it often eliminates the need of supplementary insulin in some cases.

All variations of diets have been tried and the most successful is the high carbohydrate, low fat diet. The advantages of this diet are: (1) There is a better metabolic balance with less tendency to go from a hypoglycemia to a hyperglycemia. (2) There is an actual lowering of the insulin requirements in many patients. (3) There is less tendency to develop premature arteriosclerosis. (4) The patients adhere to their diets more closely because of its greater palatability and its approximation to the average diet. This produces an important psychologic factor in children. (5) There is an increase in carbohydrate tolerance. (6) There is an increased sense of well being, the weight, strength and energy are at more of an optimum, and the patient has more of an optimistic outlook on life.

The ratio of carbohydrate, protein, and fat is 2 to 2.5 of carbohydrates to 0.9 of protein, to 1.0 of fat. The protein varies with age, at one year about four grams of protein are required per kilogram body weight, and at age four about three grams, and at age eight about two grams.

The caloric requirement cannot be arbitrarily set as it must allow for basal metabolism, normal activity and growth. It has to be increased as necessary to produce normal growth. Undernutrition is not advocated but there are reasons for avoiding overweight.

The following factors warrant the continued use of the weighed diet: Accuracy of management, control of the weight, a well balanced and adequate diet, distribution of the diet, and the well educated, well managed diabetic rarely dies of the disease.

COMMENT

All diabetic children vary in their response to diabetic management. Some are "brittle" or "insulin sensitive," in that insulin produces a marked fluctuation of the blood sugar. Others are "insulin resistant," in that insulin has but little effect on the blood sugar level. This same phenomenon holds true with protamine insulin and protamine zinc insulin. The juvenile diabetic if properly managed lives a normal life. He does not object to the insulin injections, nor does he object to the diabetic routine and discipline of the type of existence to which he must conform.

The ideal is to keep them practically sugar free, normal in height and weight for their age, a blood cholesterol below 230 mg., a normal blood sugar, and a happy existence. Keeping them practically sugar free does not mean 100 per cent sugar free as judged by the 24 hour quantitative urine specimen, as the accumulative action of protamine insulin will thus cause severe reactions. It is best to set your standard at 90 to 95 instead of 100 per cent sugar free. This depends not only upon intelligent treatment by the doctor but on the full cooperation and sympathy of the parents, and upon the integrity and full cooperation of the child. And just because one plan of management gives excellent results in a group of children does not necessarily mean that other manipulation of the diet may not be equally as satisfactory when all factors are considered. Remember that the well educated diabetic rarely dies of the disease.

SUMMARY

The following factors warrant the continued use of the weighed diet: Accuracy of management, control of the weight, a well balanced and adequate diet, distribution of the diet, and the well educated, well managed diabetic seldom dies of the disease. The new protamine zinc insulin seems to replace the unmodified insulin without difficulty. It is particularly indicated in juvenile diabetics, in insulin sensitive patients, in those requiring three or four injections of unmodified insulin daily, and in those who cannot be satisfactorily controlled with unmodified insulin.

The ideal of attainment is not only to produce a normal blood sugar throughout the twenty-four hours without either insulin shock or glycosuria, but also to produce normal development and growth, and a living happy existence brought about by the proper management of their diabetes.

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DISCUSSION

Dr. A. A. Herold (Shreveport): There is only one point upon which I wish to take issue with Dr. Herron, and that is it has been my experience that whereas one dose of protamine insulin will take care of the adult diabetic successfully, I have never seen a child who could be controlled with one dose of protamine insulin. It is true the child is nothing but a small adult, but the child is subject to violent fluctuations in blood sugar levels and attempting to regulate with one dose is impossible. I have had patients in my own practice who had to go back to regular insulin, or if they persisted in protamine, they had to take one dose of unmodified insulin. In order to keep sugar from the urine for 24 hours, you have to give such a quantity, they are pretty sure to get protamine zinc insulin reaction next morning, and we know these are harder to control than reactions from plain insulin. It has been shown by Soskin in Chicago that they are damaging to the liver, and has also been shown that prolonged hypoglycemic reactions are damaging to the brain. Therefore, it is better if the patient is so regulated on a moderate level that there is no spill over of sugar. To do that successfully with these small bodies, it is necessary after giving protamine insulin to give small doses of plain insulin with it.

I have seen some very successful results with protamine zinc insulin in adults, but as for children, my results, and the results of others, have not been so good. I have at home a girl of 11 years, put on protamine zinc insulin by Joslin in Boston, who still cannot be controlled with it alone, because if she gets a full dose of protamine in the morning, she has a violent reaction about 22 hours after the administration. So the mother has to cut down the protamine and give unmodified insulin.

With that exception, I think Dr. Herron is right, and I congratulate him upon his paper.

Dr. Allan Eustis (New Orleans): In these young people, I find that exercise plays an important part in their management. I have a boy of about 10 years of age. When he drills, he is apt to have insulin shock; if he does not drill or exercise, he is apt to show sugar in the urine.

It is very difficult to control, that is why children are so much harder to regulate.

Dr. Charles J. Bloom (New Orleans): Many of us are prone to believe that juvenile diabetics are rare, but after a perusal of the statistics of Charity Hospital and of Touro Infirmary we find that at Touro, from July, 1933 through December, 1936, there were 388 adult cases and 21 children; the incidence of children was 5.4 per cent. In the Charity Hospital, the incidence of children was 3.7 per cent. At Charity Hospital, from July 1, 1924 to June 30, 1936, the incidence of diabetic patients was 9.5 per cent.

If one thinks for a moment of the pre-Banting period relative to the death rate of juvenile diabetes, when it was practically 100 per cent, and life expectancy of a 10 year old child was less than two years, and compares it with present day statistics, we must now realize that (the administration of insulin dates back to approximately 1922), the life expectancy of a 10 year old diabetic child has been increased to 32 years.

If we briefly recapitulate the statistics of White on 750 diabetic children: Of 61 children living in the Naunyn period (1898-1914) 2 per cent living today; in the Allen period (1914-1922) 170 children, 28 per cent of them living today; in the Banting period of insulin and protamine, 1922 to 1931, 519 patients, 93 per cent of whom are living.

Dr. Paul H. Herron (In closing): I realize that in juvenile diabetics, it is hard to restrict activity so that each day we will know how much exercise the child is going to have. Therefore, some days there will be violent reactions and other days hypoglycemic shock on the same dose of insulin, even if they have no intercurrent infection, which is something we cannot regulate.

Dr. Bloom gave some good statistics when he quoted the table about the rate of advance made in mortality. Just recently, I had a general practitioner say that there was no sense in weighing out diabetic food, that they all died any way, and that they never reached maturity. He has been in the practice of medicine a long time, but I think he is wrong. It is proved that these children do have a normal span of existence for a good many years. I think the biggest fault lies in ourselves. We do not educate these children, or the mothers who care for them, sufficiently. I cannot help but believe that the more we educate an individual about his disease, the more equipped he will be to take care of himself. You do not want the patient tied to your apron strings any more than necessary.

THE VALUE OF BRONCHOSCOPY IN BRONCHIOGENIC CARCINOMA*

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There are two outstanding features of the present status of bronchiogenic carcinoma. Stated briefly, they may be said to sum up the progress which has been made in the past few decades on this disease entity. The first of these is the value derived from a closer cooperation of internist, radiologist, pathologist, and thoracic surgeon; and, the second is the important role played by the bronchoscope in the diagnosis and therapeutic measures applied to this lesion.

Medical literature is well supplied with recent articles on the subject of primary lesions of the lung and bronchi, many of which open the discussion with a comment on the increasing incidence in the past twenty years of bronchiogenic carcinoma; but, whereas intensive studies are in progress on occupational occurrence, sex dominance, and age incidence, most authors reach the conclusion that the increased number of reported cases is due primarily to advances in diagnostic facilities.

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ETIOLOGY

Chronic irritation offers one of the best explanations for the frequency of bronchiogenic carcinoma. Therefore, influenza epidemics as well as chronic tuberculosis have been suggested as possible contributing factors, but no proof has been found whereby they could be accepted as definitely causative. Furthermore, while opportunities for bronchial irritation are on the increase, it has likewise been impossible to prove any association on an etiologic basis from either clinical or experimental evidence secured up to the present time. Such irritations as tobacco smoke, exhaust gases, tar on roads, and dusty trades have been taken into consideration, with the result that the general concensus of opinion is that occupational significance in the incidence of bronchiogenic carcinoma is virtually nil, and housewives are as apt to develop the lesion as day laborers. Statistics show a predominance of the male over the female in incidence. Age apparently plays little part, since old and young are affected. However, the general rule with carcinoma applies in this instance, and the great majority of cases occur in middle and late middle life. Statistics further bring out two interesting phases: one, that localization is more frequent to the right lung than to the left; and the other, that localization to the inferior lobes is somewhat more frequent than to the superior.

A rapid review of this experimental evidence then strengthens the deduction that by far the greatest reason for the apparent recent increase in carcinoma of the lungs is the development of cooperation between the internist, radiologist, bronchoscopist, clinical pathologist, and thoracic surgeon, whose teamwork may develop the solution of the problem from every standpoint.

SYMPTOMS AND SIGNS

With its rise from comparative obscurity into a position of importance, primary carcinoma of the lung or bronchus has been found to possess interesting clinical and pathologic features, the most disconcerting of which are its frequent insidious onset, the fact that symptoms which might lead to a positive diagnosis often develop late, and, added to this, a tendency to mask its presence by simulation of other acute or chronic pulmonary infections. It has become essential, therefore, for clinicians to become conscious of its true prevalence and to be on the alert to discern initiating symptoms which may lead them to suspect its presence. Patients frequently have initial symptoms of acute respiratory infection or pneumonia, besides which the possibility of bronchiogenic carcinoma should always be considered in patients over 30 years of age, with pulmonary abscess, in patients who fail to recover from lobar pneumonia, and in patients with persistent cough, chest pain, hemoptysis, and steady weight loss. A survey of the commonest physical findings are weakness progressing to hemiparesis, anorexia, proneness to fatigue, a lag on the affected side, dulness to flatness on percussion, diminished or absent breath sounds, voice sounds, and tactile fremitus, associated with atelectasis or fluid, or both. Pain may be among the early symptoms and is commonly diffuse over the lower chest and epigastrium or in the shoulder and back. Cough, sometimes of many months or even years standing, sputum which is mucoid, either white or frothy, and is rarely purulent unless obstruction and infection occur, dyspnea and streaking or frank hemoptysis are also high in order of frequency. One of the most significant physical signs noted is evidence of bronchial obstruction as revealed by distant breath sounds, which is rarely seen in other pulmonary diseases without involvement of the pleura, and when it is observed without corresponding impairment of the percussion note over the area involved, carcinoma should be suspected at once. There are times when breath sounds are markedly reduced or absent, while the bronchial lumen on bronchoscopic examination does not appear to be greatly narrowed. Distant metastasis may also present the first evidence of primary bronchial carcinoma, but this obviously presents pathologic difficulties in tracing the site of the carcinoma. Metastasis occurs chiefly in the bones, in the brain, in distant and regional nodes, and in the liver, pancreas, pleura, kidneys, adrenals, intestine, thyroid, pericardium, esophagus, lungs, diaphragm, and so on. The above more or less late characteristics are those of obstruction. Certainly the diagnosis should be made before these late signs.

BRONCHOSCOPY

It has become a well established fact that one of the chief factors in the more frequent antemortem recognition of primray malignant growths in the air passages is the more general employment of bronchoscopy in the diagnosis and treatment of chronic pulmonary diseases and the removal of tissue for microscopic examination. Roentgenography is likewise of inestimable value in the early recognition of these lesions, and, whereas it may not be pathognomonic, it at least often leads to a provisional diagnosis, which, of itself, is an initial step toward saving a patient who might otherwise be doomed to death. The ease with which an x-ray is obtained is a point in favor for both patient and physician, as against the prevalent conception of the dangers encountered as well as the possibility of trauma in bronchoscopy. Bronchoscopy, in fact, is not an exceptional, heroic, and dangerous procedure, and, if undertaken with care and skillful manipulation, is no more dangerous than exploratory operations in other regions. This means of visualization not only definitely establishes a positive diagnosis, but the location of the growth is determined and the surgeon is aided thereby in selecting those cases which are thought to be best suited for operation, in addition to obtaining definite evidence regarding the level at which the lobe or lobes may be amputated to reach the upper limits of the tumor. Of course, bronchoscopy may not determine the extent of the lesion and the possibility of malignancy should not be excluded on the basis of a negative bronchoscopy or biopsy, yet its value in the great percentage of cases cannot be denied, for it has been estimated that with the aid of this instrument over 75 per cent of all cases of bronchiogenic carcinoma can be diagnosed correctly. Statistical information further states that those patients upon whom a diagnosis is verified by bronchoscopy, live approximately two and a half times as long as those in whom the tumor has not been visualized, because of early institution of therapy.

X-RAY DIAGNOSIS

In the light of present roentgenologic knowledge, it has become possible through a more accurate understanding of the image presented by varying degrees of bronchial stenosis, to diagnose carcinoma of the bronchus in an early stage, despite the fact that carcinoma actually never shows directly in a roentgenogram until in a very advanced stage. This advanced roentgenologic work is being successfully employed locally by Dr. Granger in Charity Hospital. This means of diagnosis is based on studies which have revealed the fact that if the bronchostenosis is slight, it produces a slight opacity, due to diminished air content and hyperemia, and is localized to an area corresponding to the extent of the stenosed bronchus, which in lateral projection appears wedge-shaped, and is particularly pronounced during inspiration. A more marked stenosis causes a valve action resulting in rarefaction in the part of the lung which corresponds to the extent of the stenosed bronchus, and in lateral projection likewise appears wedge-shaped, with more or less pronounced convex limits. It is more pronounced during expiration. Finally, the practitioners of this advanced roentgenography claim that when the stenosis has caused complete occlusion, there results a massive opacity due to atelectasis and hyperemia, and localized to an area corresponding to the occluded bronchus. It appears wedge-shaped in lateral projection, with concave limits. The surrounding lung tissue is emphysematous. If the stenosis is chronic, bronchial carcinoma should always be suspected, and bronchography undertaken. True carcinoma of the lung or any tumor must grow, however, until it breaks into the bronchus to be diagnosed by bronchoscopy. Once these tumors, whether they be benign or malignant, have grown sufficiently to obstruct a bronchus, collapse of the lung beyond the obstruction occurs, and only by bronchoscopy can this condition be differentiated from dense infiltration by carcinoma. Furthermore, the tumor must have an intrabronchial portion in order that a particle may be removed for biopsy.

LOCALIZATION

While it has been generally understood that bronchial carcinoma usually has its primary localization in the main stem of the bronchus or in one of its branches of the first order, increased diagnostic facilities are demonstrating that many early bronchial carcinomas are localized to branches of the second or third order, and that it may spread not only peripherally, out into the lung, but also in a central direction following the bronchi so that in the final stage it ends by infiltrating the stem bronchus itself.

The appearance of the tumors visualized bronchoscopically vary from the smallest nodule to a cauliflower mass, completely filling the main bronchus. The majority have an irregular granular surface, somewhat paler than the normal bronchial mucous membrane, and on removal are found to be extremely soft in consistency, and bleed freely. Occasionally they are harder and redder in color.

Bronchoscopy will reveal the presence or absence of tumor formation, although in some cases histologic examination will be necessary to differentiate between a tumor and granulous tissue. It is occasionally difficult to differentiate between the shadow of a mediastinal growth and a pulmonary growth, which is situated close to the hilum. In the former instance, bronchoscopy shows a narrowing of the bronchus from without, usually a scabbard-like flattening, as opposed to the projection of the tumor mass into the lumen, and the mucosa in the stenosed area is normal in appearance on section.

The past few years have encouraged the development of more accurate information on the pathogenesis of this condition, and considerable advance has been made along these lines in the adoption of the classification of these lesions as adeno-alveolar, squamous and "oat cell" carcinoma. Adenocarcinoma develops from columnar epithelium of the bronchus or from the mucous glands; alveolar carcinoma from the alveolar epithelium; and "oat cell" from a specific basal cell; while squamous cell carcinoma depends upon metaplasia from the columnar to the squamous epithelium.

THERAPEUTIC MANAGEMENT

The proper therapeutic management of bronchiogenic carcinoma is an important question. Advances in thoracic surgery have increased the proportion of patients for whom radical removal is possible, but a large number of patients present themselves in too advanced a stage to permit of these measures, and the growths have to be destroyed by less radical measures, or palliation alone is possible. There are two methods of treatment, irradiation and endoscopy with the bronchoscope. It has been advocated in employment of the latter, that the lesion be destroyed by means of an electric cautery or by the implantation of radon seeds. Radon seeds of platinum, gold, or silver may be inserted directly into the tumor or they may be applied in some form of container, which is left in the bronchus for a given time and then removed. There are definite variations in the technic employed, and only time and future experience will lead to the selection of the most desirable. Some operators insert the seeds directly into the tumor mass, instead of alongside of it in the bronchial lumen. In this way they can be distributed in different parts of the growth and are more likely to remain in position. The seeds become inert after fourteen days, and although they are known to migrate, no symptoms have ever been reported as caused by their presence.

The employment of either electrocoagulation or implantation of seeds is apt to open the lumen of a bronchus to such an extent as to relieve at least partially some of the atelectasis that is frequently present, with the result that there is better aeration of the diseased lung with drainage and a decrease in the size of the atelectatic area, as demonstrated by x-ray. It is possible to remove a pedunculated tumor endoscopically with electrocoagulation; but it must be borne in mind that the effectiveness of local application of radon seeds bronchoscopically may be lowered by the inaccessibility of the growth and the relative radioresistance of the cells. The method, however, may be of value when used in conjunction with surgery, especially in those patients in whom a small amount of tumor must be left in the bronchial stump for technical reasons or in those patients in whom there is a local recurrence in the bronchial stump.

Although the study of primary carcinoma of the lung is in a stage of rapid and varied development, some phases of which are still baffling, a brief review of cases taken at randon will not only substantiate the progress, made diagnostically, pathologically and therapeutically, but will also serve to illustrate the assertions made regarding the lesion.

CASE REPORTS

The first case is that of a white male, about 48 years of age. He was admitted to the hospital with a complaint of abdominal pain. Upon a general physical examination, it was noted that there was some lagging on the right side, but, otherwise, there were no marked physical findings. An x-ray was requested, and it revealed a lesion in the right hilar region, with some atelectasis. The radiologist made a probable diagnosis of primary bronchiogenic carcinoma. Bronchoscopy followed and material was removed for biopsy, which positively established the condition as carcinomatous. In this instance there were no indications of the disease which would have prompted the patient to apply for aid until the condition was too advanced. He died shortly after admission to the hospital.

The second case is that of a colored male, 49 years old, who complained of coughing of six months' duration, with dull aching sensations in the chest. The cough was productive, but there had been no hemoptysis. The patient complained vaguely of a "fever in his stomach." A physical examination of the chest was negative, except for a slight lag on the left side, slightly increased vocal fremitus on the lower left chest, and slight dulness on percussion over the left chest posteriorly. A radiograph made three days later showed some infiltration in the hilar zone of the left lower lobe, suggestive of pneumonia or possibly bronchiectasis with pulmonary shrinkage. A bronchoscopy was then done and a lesion was noted in the left bronchus. A section was removed for biopsy, from which it was reported that upon dipping down from one surface, which was covered with a thin layer of stratified epithelium, there were a number of masses of embryonal epithelial cells occurring in irregular shaped groups, infiltrating through the entire area removed. It was declared definitely carcinomatous in character. A rib resection and a lobectomy were performed one month later. The patient died two days after operation, due to the shock of the operative procedure.

The third case is obviously one in which medical care was requested when it was too late to do anything for him. The patient was first seen complaining of pain in the right chest, and loss of appetite since a "cold" three months previous. The diagnosis at this time was encapsulated pleural effusion of the lower right chest with possibility of tumor. Five hundred c.c. of fluid were removed from the pleural cavity, and the patient was discharged from the hospital after four days. His second admission to the hospital was one month later, when he again complained of chest pain, with shortness of breath, increasing weakness, and continued loss of weight. The patient died one month after this of bronchiogenic carcinoma. The progress in this instance ran true to form. The physical examination of this patient was essentially negative, and in addition to the late complaints already mentioned might be added a poor appetite, and a "bad taste in his mouth." An examination of the chest revealed lagging on the right side posteriorly, diminished fremitus and breath sounds posteriorly from the scapular angle to the base. Anteriorly, no pathology was noted. The first radiographic report mentioned a homogeneous increase of density in the lower third of the right lung, obscuring the diaphragm and right heart border. A lateral view showed this density to be triangular and lying in the posterior half of the chest. These findings were concluded to be suggestive of fluid encapsulated between the right lung and posterior portion of the right diaphragm. Atelectasis in this region, however, could not be excluded. A second radiograph, taken after aspiration of the right pleural cavity, demonstrated encapsulated effusion in the lower right chest. A radiograph made at the time of the second admission of this patient to the hospital, showed increased density over practically the entire right chest. The mediastinal contents were not displaced. The trachea was retracted to the right. The conclusion reached at this time was that the findings were most likely due to a thickened pleura, plus fluid. The following day, after the aspiration of 800 c.c. of fluid, the radiograph showed hydropneumothorax of the right chest with a small amount of fluid. The lung was collapsed about one-third, and there was an increased density over the right base, possibly due to an atelectatic lower lobe. A third radiograph, taken after bronchoscopy, showed hydropneumothorax in the right chest with fluid at the level of the eighth rib posteriorly. No lipiodol could be seen in the lower right lobe, but was seen in the middle and upper right lobes and the lower left lobe. During bronchoscopy, a specimen was removed for biopsy, and the pathologic report pronounced the condition as bronchiogenic carcinoma, type III, with secondary acute and chronic inflammation.

The fourth and last report is that of a laborer from the country who was admitted to the hospital complaining of a cough, chest pain, malaise, and gradual loss of weight. These symptoms were of several months' duration. The patient stated that he coughed up blood and dyspnea was present. He was admitted to the ward and treatment for tuberculosis was instituted. The patient had no chills or fever in the afternoon, but complained of night sweats at times. He was slightly deaf and had been hoarse for five weeks. His appetite was poor, and he ate all food with discomfort. His physical examination was negative for the most part, and his lungs were found to expand practically equal; there was little difference in fremitus; slight impairment on the left side; breath sounds came through clearly; the sounds were rough over the apices and bases, and particularly the right apices and the left bases. There were no definite rales. Bronchoscopy was performed and three small sections of material were removed for biopsy. These showed a positive carcinoma of the bronchus, suggestive of the squamous type. X-ray reports on this patient showed consolidation of the major portion of the left upper lobe, and adhesions to the left bronchus with marked elevation of the diaphragm. One month later the x-ray revealed a large area of passive congestion and poor ventilation in the left upper lobe, most likely due to stenosis (carcinoma) of the second division bronchus. In the lower portion of the left chest there are definite signs of thickening and adhesions to the diaphragmatic pleura. This is a current case. Because of the large number of adhesions, this is probably not a case for pneumonectomy, but can better be treated by high voltage therapy.

These cases, selected at random, typify the general characteristics of the disease. They were victims, however, of late diagnosis, having presented themselves at a stage where there was little or no hope of instituting either effective or palliative treatment.

DISCUSSION

The facts brought out in reviewing the subject of bronchiogenic carcimona are not new ones, but they still need repeating, with special emphasis on the early recognition of this disease and its elimination before it gets a foothold. Early diagnosis is the real need in the treatment of lung cancer, and supersedes all other factors toward a favorable outcome. The rapid strides being made in thoracic surgery make it possible to cure some cases, and a more careful study of the many aspects of the disease as a whole, which in turn results in earlier diagnoses, will certainly provide means of instituting more efficacious therapy in those cases unsuited to radical measures. Bronchoscopy holds an important place in the field of early diagnosis of lung conditions, as it is the only means by which positive proof can be obtained before the final stages of the disease.

CONCLUSIONS

1. Early diagnosis, so absolutely essential for a favorable outcome in bronchiogenic carcinoma, is possible only by means of a close cooperation of internist, radiologist, bronchoscopist, clinical pathologist, and thoracic surgeon.

2. Bronchoscopy with biopsy is the only positive means of establishing a final diagnosis.

3. The two methods of treatment, which offer the best hope at present in the control of this dreaded disease, are surgery and radiotherapy, for those cases unsuited to operation.

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DISCUSSION

Dr. Val H. Fuchs (New Orleans): There are a few things that should be stressed and should be remembered constantly: The first is that there is no branch of medicine that can diagnose and treat these cases alone. The combined effort of the internist, thoracic surgeon, bronchoscopist and radiologist is needed. The beginning of these cases is very insidious. They come on gradually and the patient does not complain a great deal except of cough. It might be of benefit to remember that any patient who has a cough, with blood in the sputum and where tuberculosis has been ruled out, should be suspected of having malignancy until proved otherwise.

One recent case impressed upon me that factor. Last October I saw a very strong and well built male complaining of spitting blood-streaked sputum every morning upon arising. His sputum was examined and found negative for tuberculosis; a few pneumococci and streptococci were present but nothing else. At that time the patient was sent to an internist who went over him very carefully and decided he could not find anything wrong but felt sure, until proved otherwise, that there was malignancy. The patient was sent to a radiologist. This is the picture which was gotten back from the radiologist. (X-ray shown). You can see a perfectly normal lung. There is nothing at all in that lung that would make us suspicious of any pleural condition whatsoever. The patient was advised to have a bronchoscopy done; however this was not done as the patient put it off. The next time I saw the patient he was in Hotel Dieu, admitted following a case of grippe. His temperature would not go down and he continued to expectorate bloody sputum. Another picture was taken and showed the whole upper lobe on the right side solid. He was again advised to have a bronchoscopy done and consented to this procedure. Upon bronchoscopy a tumor presented itself in the right upper bronchus, extending down to the main bronchus. A section of the tissue was taken off and sent to the pathology department and was diagnosed as inflammatory tissue. In spite of this fact, the thoracic surgeon decided to do a pneumonectomy. The patient was operated on ten days ago. The lung was removed, under a great deal of difficulty. There were many adhesions and there was quite a lot of difficulty in controlling the pulmonary circulation, so much so that it took five hours to do the pneumonectomy. Unfortunately, the patient expired shortly after the operation was completed. The lung showed a bronchiogenic carcinoma about the size of a large grape, blocking the right upper bronchus.

Dr. C. J. Tripoli (New Orleans): The incidence of bronchiogenic carcinoma has gradually increased in recent years. This increase may be accounted for, in part, by more careful observation and better diagnostic procedures which are now available. However, I feel sure that these facts do not account for the relatively frequent occurrence of these cases at the present time.

As pointed out by the author, the etiologic factor, or factors, still remains the subject of conjecture. Among the many irritating factors, smoking tobacco has been incriminated. The logic of this statement is indeed quite interesting when we consider the increasing use of tobacco. It is quite true that lung cancer is far more frequent in white males. Its prevalence is increasing in the female. It has been only in the last ten to fifteen years that the use of smoking tobacco has been taken up by women and those who began using it then, are now reaching the cancer age. Notwithstanding the fact that lung cancer does occur in non-smokers as well, these observations are deserving of further study.

The diagnosis of carcinoma of the lung has presented to the internist one of the most interesting and sometimes the most perplexing problems. Certainly, therapeutic efficacy is in a large measure dependent upon early diagnosis. Surgical eradication offers the greatest hope in the earlier cases, as indicated, or for those cases which for one reason or another forbid any operative procedures.

The many phases of this problem have been diligently studied. At this meeting, Doctors D'Aunoy, Pearson and Halpert have exhibited their recent observations on the pathogenesis of the cellular components. Dr. Granger is now in preparation of a most impressive roentgenographic study of the various phases of this form of lung pathology which he permitted us to see at a recent meeting.

Early diagnosis, therefore, offers our greatest hope so far in the control of this dread disease. At this time I would like again to direct your attention to a few of the pertinent facts which will help us in early diagnosis. For example, any individual beyond the age of 40 years who for the first time has "hemoptysis" or "bronchial asthma" or "asthmatic bronchitis" or has a persistent, unexplainable, non-productive or mucoid productive cough should at least be suspected of having lung malignancy. The early serial roentgenologic signs have been clearly defined and are universally recognized by all roentgenologists.

Bronchoscopy offers a means of direct visualization of a large number of bronchiogenic neoplasia. It has become indispensable as an aid not only in differential diagnosis but in drainage of obstructed and infected areas, relief of toxemia and preparation of patients for surgical procedures.

As illustrated by our speaker, the combined efforts and close cooperation of internist, radiologist, bronchoscopist and surgeon are not only important but absolutely essential if we wish to influence the usual course of events in any case of lung carcinoma.

Dr. John T. Crebbin (Shreveport): It is not only one over 30 years of age, who may become affected, for young and old may become a victim. It is no respecter of age, or station in life. Statistics show that malignancy in this region is tremendously on the increase in this country.

An early diagnosis is of utmost importance. A biopsy is necessary in every case. In fact, this should be routine practice in every patient. By following this method, mistaken diagnosis will be prevented and an early start of treatment will result. Many cases are lost by failing to have a pathologic examination made. This is the only method whereby a positive diagnosis can be made.

Relative to the treatment, not with the idea of taking exception, but only with the intention of emphasizing some facts gleaned from observation, Dr. Taquino states that a large percentage of cases die following surgery. This is of great importance, for all observers agree on this point and I fully concur. Apparently, our operators have not developed a proper technic and, until this has been developed, I would urge against operation.

It is generally agreed that deep x-ray therapy is the method of choice, in treating these cases. Following x-ray treatment many failures occur. I am of the opinion that the dosage was entirely too light. Massive dosage is indicated in treating all of these tumors. It is a mistake to give small dosage for this is at the expense of the patient. Furthermore, this region will tolerate just as large x-ray dosage, as any other region of the body. Radon needles are successfully used but massive x-ray dosage is advisable in each of these cases. This method of treatment offers the safest and surest results.

Dr. George J. Taquino (In closing): I want to elaborate a little on one point which Dr. Tripoli brought out, that is the subject of tobacco smoke. Jackson, in his textbook on "Disease of the Larynx," lists smoking as a possible factor causing malignancy. He says that the tobacco causes irritation and it is from irritation that a malignant condition is prone to develop. You do not even have to smoke, according to the theory of Jackson, but if you happen to be in a room where there is smoking the mere fact that you inhale tobacco smoke will be sufficient to produce irritation, not only in the larynx, but also in the tracheobronchial trees.

As already mentioned, a negative biopsy does not mean that carcinoma is not present. There are other signs, observed during bronchoscopy that are suggestive of malignancy.

Westermark in a recent article at the International Congress of Radiologists made the following observations: Bronchial carcinoma seems, in recent years, to be relatively more frequent in Sweden. In his material, cancer of the stomach occurs 6.5 times as often as cancer of the bronchus; while in Nystrom's material for 1911-12, stomach cancer occurred 75.5 times as often as cancer of the lung. The average is somewhat less than for cancer as a whole, not less than half the author's patients are under fifty years. Sex dominance in male, in five to one ratio; frequency in right lung in three to one ratio.

THE RADIOLOGIC ASPECTS OF BRONCHIOGENIC CARCINOMA*

A. D. MAYORAL, M. D.
NEW ORLEANS

The slide on the screen is taken from a current textbook of anatomy. It is an excellent diagrammatic representation of the bronchial tree. The trachea can be followed to its final alveolar ramification. The bronchi are well supplied with mucous glands. Epithelial cells abound through all these structures. Potential carcinomatous tissue is therefore plentiful.

Strictly speaking, bronchiogenic carcinoma is a malignant tumor arising from the epithelial cells of the lining membrane of the bronchi. Histologically, three groups are recognized, depending on the particular tissue in which they take origin: (1) bronchial from the lining membrane of the bronchi; (2) glandular, if arising from the glands, and (3) alveolar, if from the tissue of the alveolar sacculations. In mentioning this last group I feel that I must state that I am well aware of the fact that this group is denied by some.

I hardly need tell you that this differential group diagnosis cannot be made by the roentgenologist. It should not be expected of him—his resources are greatly taxed when he differentiates primary from metastatic lung malignancy.

The roentgenologic aspect of primary carcinoma of the lungs depends on three things: (1) the bulk of the tumor mass and its direct encroachment on the pulmonary tissue; (2) the modification in the architecture of the organ brought about by the interference of the tidal movement of the air, by the growth, and, (3) by a combination of both.

The following slides taken from proved cases of primary carcinoma of the lung furnish good illustration of what I have just said, the third slide being of particular interest to me because it only shows incomplete atelectasis of the left lower lobe.

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*This and the following two papers are some of the presentations from a Symposium on Bronchiogenic Carcinoma read before the Orleans Parish Medical Society on February 14, 1938.

Attempted lobectomy resulted in death. Autopsy revealed a malignant growth infiltrating the lining mucosa causing marked stenosis, and widespread metastatic growth in practically every other organ. The symptoms were very meager.

The two slides to follow show a tumor growing in the upper lobe, occluding the main bronchus by extrinsic pressure and causing complete atelectasis. And finally one slide to show the typical x-ray picture of metastatic malignancy.

There are no pathognomonic x-ray signs of primary carcinoma of the lung. When interpreting the shadows cast by lung tumors, the roentgenologist must apply his knowledge of medicine to arrive at a diagnosis. The confirmation rests on tissue examination.

BRONCHIOGENIC CARCINOMA FROM THE BRONCHOSCOPIC ASPECT

A REVIEW OF SOME RECENT LITERATURE

HAROLD LESLIE KEARNEY, M. D.
New Orleans

One of the outstanding contributions in this field comes from Kramer and Som who report an analysis of 300 cases of carcinoma of the lung with 100 necropsies. These authors point out the importance of bronchoscopy as an aid in diagnosis of diseases of the chest and also call our attention again to the fact that in a certain proportion of cases a definite diagnosis of lung cancer cannot be made by endoscopic examination. Because of the progressive diminution in size of the bronchi, the bronchoscopist may be unable to visualize early bronchiogenic cancer in the smaller bronchial divisions because of his inability to enter the smaller tubes with this instrument.

LOCATION OF LESION

From the standpoint of location of carcinoma of the lung, Kramer and Som find the upper lobe of the right lung the most frequently involved region, the tumor occurring here in 21 per cent of their postmortem material. The left upper lobe was the original site of the growth in 17 per cent of their necropsies. Using the topographic classification suggested by Wessler and Rabin, they recognize three distinct groups of pulmonary carcinomata. These, with their incidence of occurrence in their series, are carcinoma of a large bronchus (62 per cent); carcinoma of a small branch bronchus (18 per cent); and parenchymatous carcinoma (20 per cent). Under carcinoma of a large bronchus they include tumors located in bronchi of the first, second and third order.

BRONCHOSCOPIC STUDIES

The bronchoscopic appearance of pulmonary cancer, they point out, depends on the type of growth, the duration of its existence, the presence or absence of superimposed infection, and on bronchial or tracheal compression from involvement of mediastinal nodes. Tumor of the large bronchus may show either ulceration or stenosis. Stenosis may be obturative from protrusion of the lesion into the lumen, in which case the tissue is friable and easily cut; or the stenosis may be infiltrative, in which case the lumen is narrowed from infiltration into the bronchial wall. In these infiltrative types, the mucosa is replaced by flat tumor tissue which is tough and difficult to cut. In the submucous type of tumor the narrowing of the lumen from submucous infiltration crowds the mucosa into the diminished lumen of the bronchus and produces longitudinal folds, and in time, a funnel-shaped stenosis. A fungating growth with an ulcerative surface, sometimes exposing the cartilaginous rings, is almost invariably carcinoma.

The carcinomata of the small branch bronchi are found by Kramer and Som to be detectable endoscopically in only those cases in which the growth has encroached proximally far enough to be visible to the bronchoscopist, which occurs in about 50 per cent of the cases. In these cases the tumor presents itself as an infiltrative growth producing rigid bronchi with characteristic absence of motility of the affected bronchi. The spur between the branch bronchi may become thickened and shortened. There may be marked distortion of the bronchial tree.

Pulmonary cancer of the parenchymal type is not bronchoscopically visible unless the tumor has grown into a large bronchus. This type may sometimes cause marked bronchial distortion.

In the 100 necropsies reported by Kramer and Som, bronchoscopy was done during life in each case, and biopsy was done if feasible. In 70 per cent biopsy showed carcinoma. Biopsy was positive in 97 per cent of the group in which the tumor was located in the large bronchi. In 70 per cent of these cases the dominant lesion was stenosis and in 27 per cent ulceration was more prominent. In 3 per cent the tumors of the large bronchus could not be visualized for biopsy or bronchoscopic observation because of proximal bronchial or tracheal compression stenosis from metastatic mediastinal nodes.

GENERAL REMARKS

Of 27 cases of lung cancer associated with pleural effusion, nine cases showed both the biopsy and the pleural fluid to be positive for malignancy. Eleven cases showed positive biopsy and negative pleural fluid; seven cases showed negative biopsy and positive pleural fluid.

Kramer and Som found no apparent relationship between cancer of the lung and tuberculosis or syphilis. An associated tuberculous cavity was found in four and a positive Wassermann was found in four of their 100 necropsies. They found paralysis of the recurrent nerve in 14 cases and paralysis of the phrenic nerve in nine cases. They consider paralysis of the recurrent nerve in obscure disease of the chest as highly suggestive of carcinoma. They have not had a single proved case of paralysis of the recurrent nerve due to tuberculosis.

Lederer reports a case of fatal hemorrhage immediately following bronchoscopy in a case of pulmonary carcinoma. Necropsy showed cancerous invasion of the upper right pulmonary vein which had given way, resulting in the fatal bleeding.

Sweany comments that in the past fifty years, primary lung cancer has sprung from obscurity into a rather common disease. He feels that part or perhaps much, of this apparently increased incidence may be due to: (1) an increased life expectancy, throwing nearly 100 per cent more into the cancer age than existed fifty years ago, (2) increased knowledge of the cause of certain diseases (tuberculosis, bronchiectasis); (3) the tremendous effect on diagnosis brought about by the x-ray and bronchoscope; (4) increased zeal on the part of the medical profession and laity (better hospitalization, better transportation, more autopsies on unusual types of patients); (5) a changed attitude in pathologic interpretation of lung cancers, placing in this group many that were considered metastases or sarcomas. He agrees with Wells who said about cancer in general: "A high cancer death rate is an indication of good state of public health."

Of biopsy, Arbuckle says in answer to the old question of its advisability: "The reply should be that it is the only method by which the diagnosis can be definitely established at a time when it is worth while to the patient."

Kramer and Som, reporting a study of 23 cases of adenoma of the bronchus, state that these benign neoplasms at first glance create the impression of malignancy and have previously been reported as adenocarcinoma, endothelioma and small cell carcinoma. They point out that a representative biopsy specimen from an adenomatous growth must not be the ordinary superficial specimen, but must include deeper tissue which shows the characteristic solid alveolar arrangement of cells which are uniform in size, shape and staining characteristics. Metaplasia and inflammatory changes in the superficial specimen may mislead the pathologist. There are a number of reports in the literature of cured cases of malignancy of the bronchus, which they believe, both from the clinical history and from the published microscopy, are really non-malignant adenomata of the bronchus.

Kernan, reporting ten cases of carcinoid tumors of the bronchi treated by diathermy, mentions that he and Cracovaner reported one of these cases as a carcinoma of the lung cured by diathermy. He stresses the importance of properly differentiating these tumors from true carcinomas, for even now he says competent pathologists report them as carcinomas.

SUMMARY

Carcinoma of the bronchi is a condition which nowadays is receiving much attention in the otolaryngologic literature.

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PATHOLOGIC ASPECTS OF BRONCHIOGENIC CARCINOMA

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NEW ORLEANS

An understanding of the pathologic aspects of bronchiogenic carcinoma requires a brief preliminary consideration of the normal structures of the air passages and their embryonic derivation. The exact origin of the cells lining the alveoli of the lung is still under discussion.[1] It seems certain, however, that they rarely, if ever, give rise to malignant growths. For this reason, carcinoma of the lung is usually bronchiogenic. The portion of the air passages which connects the alveoli with the trachea presents differences in the anatomic structure of its successive parts. These differences involve the mesodermal as well as the entodermal portions, though at present we are concerned mainly with the latter.

HISTOLOGIC DATA

The mucous membrane of both main bronchi is identical with that of the trachea. In both locations it is smooth except posteriorly, over the membranous portion, where it is thrown into longitudinal ridges. The cells lining the surface are columnar and ciliated, with numerous interspersed goblet cells. Beneath these cells are several rows of other epithelial cells. At intervals lumina of ducts of serous and mucous glands open on the surface. These tubulo-alveolar glands are located in the tunica propria and are more numerous in the membranous portion, where they are situated above as well as beneath the smooth muscle layer which spans the gap between the horseshoe-shaped rings of cartilage.

Beyond the point where the main bronchus enters the hilus and divides into two branches on the left and three on the right, a change occurs in the structure of the bronchial wall. In the mesodermal portion this change concerns the shape and arrangement of the cartilaginous skeleton, and the amount and distribution of the smooth muscle and the connective tissue. In the entodermal portion it concerns the surface pattern of the mucosa in that longitudinal ridges appear around the entire circumference of the lumen. It also concerns the arrangement of the glands in that practically all of their acini become situated external to the incomplete muscular coat.

With successive branchings of the bronchial tree the lumina decrease in size and the walls become more delicate. At a point where the lumina of the bronchioles narrow to about 1 mm. in diameter, the cartilage disappears and the mucosa becomes void of glandular structures. From this point onward the bronchioles become smaller and are lined by a single row of ciliated columnar cells with no goblet cells between them. A short distance further in the terminal portions of the bronchioles the ciliated columnar epithelium gives way first to non-ciliated cuboidal and then to low cuboidal epithelium, which finally fades into the lining cells of the alveoli.

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The epithelial cells covering the mucous membrane of the bronchial tree from the stem to the minute branches are entodermal cells exhibiting a varying degree of differentiation and specialization. Apparently the undifferentiated entodermal ancestor or parent cell is capable of developing into a variety of cells. These include: ciliated columnar epithelial cells; goblet cells; cuboidal cells arranged into acinar and tubular structures producing a serous or mucous secretion; indifferent cells lining the ducts of these glands; and another kind of cuboidal or low cuboidal cells without cilia which line parts of the terminal bronchioles. In addition to the variety of cells listed, a varying number of other epithelial cells lie beneath the ciliated columnar and the goblet cells. These epithelial cells, like the basal cells in the epidermis, are lined up along the tunica propria, and their nuclei form one or several rows. These are the parent or "reserve" cells from which the ciliated columnar and the goblet cells are replenished. They naturally possess the qualities of their ancestor cells in that they may differentiate into any kind of epithelium which an entodermal cell is capable of producing.

PATHOLOGIC CONSIDERATIONS

These "reserve" cells, which so far, with few exceptions,[2] have escaped the attention of oncologists, are in my opinion the cells most likely to be implicated in the development of carcinoma of the lung. Whenever one of them, or a group of them, succumbs to an atypical proliferation, a malignant epithelial neoplasm of the lung arises. Such neoplasms may be classified into three main types: the reserve cell carcinoma proper, the columnar cell carcinoma, and the squamous cell carcinoma.[3]

The reserve cell carcinoma grows in solid masses composed of round, elongated (the so-called "oat cells") or polygonal cells forming no particular structure. Usually there is a palisade arrangement of the peripheral cells. The parent cell of this carcinoma, I believe, is the reserve cell from which ordinarily the ciliated columnar and goblet cells are replenished.

The columnar cell carcinoma is composed of solid masses of undifferentiated tumor cells as well as of columnar or cuboidal cells which form acinar, tubular, or papillary structures. This type of growth, as compared with the reserve cell type, is probably further differentiated in that it reproduces or imitates, but in a haphazard way, any one or more of the normal epithelial structures of the air passages. The parent cells of this type of carcinoma are, I believe, the reserve cells, many of which go on to maturation into the cell forms which they normally produce.

The squamous cell carcinoma, just as in other locations in which it is more frequent, is composed of nests of tumor cells, with or without intercellular bridges. The cells are arranged more or less concentrically, forming epithelial pearls with central keratinization. Such a neoplasm in the lung must naturally be regarded as of earlier ancestry than either the columnar cell or the reserve cell carcinoma, since at an early stage of its development the entodermal ancestor cell of the air passages has the property of producing stratified squamous epithelium. Under certain circumstances the epithelial cells of the air passages still produce stratified squamous epithelium, and also produce carcinoma of the same type.

In each of the three types of carcinoma of the lung there is a great deal of variation in the rapidity of the growth, the amount and character of the stroma, and the occurrence of secondary changes, such as hemorrhage and necrosis. The gross appearance of the neoplasms is dependent upon these changes rather than upon the actual cellular structure of the tumor parenchyma, and there are no criteria, therefore, by which the microscopic structure of a carcinoma of the lung can be predicted without histologic examination.

The most usual site of the primary growth of carcinoma of the lung is at or near the hilus. The location is usually the point at which the stem bronchus divides or at which the first secondary branches are given off. The growth may or may not ulcerate the bronchial mucosa at once, but it soon infiltrates the bronchial wall and the surrounding pulmonic tissue, as well as the regional lymph nodes. Local extensions cause enlargement of the primary growth, and spread by the lymphatics and the blood stream is responsible for the appearance of multiple foci in the same lung and eventually in the opposite lung, and sometimes in such distant organs as the liver, suprarenal glands, kidneys, skeleton and brain.

SUMMARY

The lining cells of the alveoli rarely, if ever, give rise to malignant neoplastic growths. For this reason carcinoma of the lung is usually bronchiogenic.

The suggestion is advanced that the reserve cells are the parent cells of all three types of carcinoma of the lung: reserve cell carcinoma, columnar cell carcinoma, and squamous cell carcinoma.

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THE ALTERNATING PULSE

Very valuable diagnostic and prognostic information may be obtained from the simple procedure of observing carefully when the first beat comes through as the blood pressure is taken. This simple little observation is not often made, usually because the air is released from the sphygmomanometer cuff too rapidly. In the instance of a patient who has had suggestive symptoms related to the heart, or who has hypertension, or who has had questionable anginal attacks, very worth while is the noting that there is a difference varying from two to as much as ten or twelve millimeters of mercury in the appearance of the sound of every other beat of the heart as it comes through to the ear listening over the bend of the elbow. This finding indicates that that particular person is in ripe danger of having heart failure.

As Sodeman[1] has written, alternation should be sought for deliberately when the blood pressure is taken in patients who may have heart disease. It is certainly a very simple examination and every doctor has in his office or at the bedside the necessary equipment, namely the sphygmomanometer. It is often the only definite physical finding indicative of severe cardiac damage. As a matter of fact White speaks of it as the only pathognomonic sign known of weakness of the left ventricle. It occurs before there is peripheral edema or any signs of right-sided heart failure. It is of value in separating left ventricular disease from disorders of the lung which cause shortness of breath. So much for the diagnostic significance of the alternating pulse.

Prognostically it is necessary to differentiate between two types of pulsus alternans; those with extremely rapid hearts, especially if they have paroxysmal tachycardia, and those whose hearts are not unduly rapid. In the instance of paroxysmal tachycardia the alternating pulse is probably of no great significance but with patients with a slow heart rate, not over 90 per minute, the prognosis very definitely is bad if pulsus alternans is present. On an average the patients who have this finding will live only one or two years. Rarely and occasionally only they may survive as long as five years. The older they are the greater is the likelihood of their living longer than the young person. For example, in people of 40 or under as reported by Thompson and Levine,[2] the average duration of life after alternation was noted is only six months, whereas those who have passed the age of 70 survive for an average period of nineteen months. In patients with hypertension life duration is fifteen and a half months, whereas in those who do not have hypertension it is only nine months.

It may be observed from these few statements, which might be immeasurably enlarged, that pulsus alternans may be observed before the heart shows any other signs of failing, that it is a very definite and easily obtained diagnostic finding in heart failure and that it is a very important prognostic finding when it is discovered.

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MEDICAL ECONOMICS

The reaction of the public press to the indicting of the American Medical Association, its officers and permanent secretaries of the various councils by the Grand Jury in Washington is most unfavorable to the Government. This action has aroused tremendous resentment amongst the medical profession. The feeling that the profession has been treated most unfairly is not confined to its members. Judging from the editorials from the lay press it is obvious that there are many, many others in this country who feel that the indicting of these officials was an underhand act to prepare the way for socialized medicine. It is a distinct and direct effort to harm the medical profession and to weaken its stand against socialized medicine. As one of the columnists writes in a most unfair presentation on the subject, the American medical profession is now behind the eight ball. There is no question but that this is the motivating purpose of the indictment. As an example of the reaction of the legal profession the statement of a distinguished lawyer might be mentioned. He said that it is the first time that he ever knew or heard of an act which had to do with financial and business relations being called on to lash a noble profession and to bring about a social change which is unnecessary and undesirable.

On these editorial pages we are reprinting the comments of Boake Carter which appeared in a recent number of The New Orleans States. It is through the courtesy of this publication that we are permitted to reprint Mr. Carter's article. It expresses well the feelings that the great majority of the profession have in regard to the underhand measures that have been taken by a few enthusiastic, misguided Washington officials to chastise medicine. It should be read and re-read.

It is a remarkable commentary on our present day life that there should be held up to public scorn a profession such as that of medicine, which has always upheld the finest of traditions, which has labored day and night in the care of the sick, rich or poor, and which has alleviated sickness and death to such an extent that morbidity incidence and death rate have fallen to a degree which is astounding. In no other country in the world is there a comparable record of decreasing illness and diminishing death rate. That medicine should be punished and held up to public ridicule because it has been through the efforts of organized medicine that quacks have been kept in restraint, that hospitals have the efficiency they have and that medical service is as excellent as it is, is utterly ridiculous. It is almost entirely through the efforts of the American Medical Association, through its policing powers, that medical ethics is where it is today, that quackery is on the decrease and that malpractice is practically non-existent. It should be to the glory of organized medicine that such an honest, clean profession exists. Benighted reformers in Washington have done their best to destroy the faith of the American people in their physicians and doctors.

CASE OF THE DOCTORS—SOCIALIZED MEDICINE DANGER AHEAD*

The mass-production mania has now engulfed the medical profession.

The government has succeeded in obtaining indictments against the American Medical Association and 21 of the nation's leading physicians and surgeons as conspirators to violate the anti-trust laws and prevent "trade."

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*Reprinted from The New Orleans States, December 27, 1938.

The "trade" is group medical practice performed on a cooperative basis. The scene of the battle is the District of Columbia.

The group medicine disciples charge the A. M. A. with bringing pressure to bear on hospitals and the 120,000 out of the 140,000 doctors in the United States who are members, to prevent the operation of group medicine.

The medical profession retorts that the Sherman anti-trust law cites restraint of "trade"; that the practice of medicine is not a "trade" but a "learned profession"; that anything which prevents the right of a patient to free choice of his own doctor is dangerous to the public health.

There are many points to be remembered before taking up cudgels for either side. First, the government is pushing the case and the administration has a mass-production public health scheme it desires to foist upon the public. The indictments, therefore, serve as excellent government propaganda, even should the government lose the case in a court of law.

Further, if organized medicine is not permitted to lay down some code of ethics and rules, by which doctors must be guided in their conduct, and by which they may be disciplined for infraction, why does the same administration encourage the formation of labor unions, which establish rules by which workmen are disciplined when they break the rules?

There are various kinds of organizations which give group medical care in the United States. Their number totals well over 2000. Upon hundreds the A. M. A. has stamped its approval because they did not violate the fundamental right of a patient to pick his own doctor. But there are others which do not permit such free choice and which furthermore, require a third party to hire and sublet the physicians' services. In obtaining the indictments the government has made no effort to make this vital differentiation clear to the public.

It has long been a popular cry—fostered by rabble rousers and government bureaucrats—that the poor cannot obtain adequate medical treatment because of too high fees and hospital prices; that doctors and hospitals are afraid to lower their scales for fear of being "cracked" by the A. M. A.

If all the hours of free treatment by physicians to people who are too poor were recorded, the total would run into astounding figures. If one man had all the dollars that doctors have knocked off their fees in treating patients they well knew had little money to pay, that man would be a billionaire several times over.

Medicine is not a business. Nor could it be described as a trade. It is the profession of healing. It is the healing of the ills of the human body. Each body has its own peculiar idiosyncrasies. Since when has it been possible to hand out healing on a mass basis and expect proper results?

A peculiar sense of intimacy arises between doctor and patient, just as a sense of intimacy rises between lawyer and client. The patient who believes he is just another item of cattle to be jabbed with a needle by a man whose salary is being paid regardless of what sort of work he does—how good or bad he may be—is the one who revolts against the principle of "medicine-on-a-mass-production" basis.

To establish a system where mediocrity is its keynote is to toy with human life—toy with the health standards of the nation. In neither instance is that benefiting mankind. Offering a palliative and attempting no cure is not medicine. It is bureaucratic cruelty.

As a patient, I have been to my doctor many times. And many times he gave me neither medicine, pills, nor cut out my gizzard. But it was worth the money—a small fee—to learn that I did not need medicine.

It is conceded that the A. M. A. is not perfect. This writer long ago contended that its control was too conservative for these modern days; warned that rigidity of control would some day flare back in its face. It must also be acknowledged that the A. M. A. has eased its codes considerably in the last five years. But in any case, it is the guardian body which sustains the high standards of healing used in the United States, and it is pitiable to see the power of the United States government being used to undermine the confidence of laymen in the integrity and decency of their doctors.

To be sure there are crooked doctors. But are there not also crooked lawyers? If the government desires to bedevil the A. M. A. as an organization restraining "trade," then let the government also bedevil the American Bar Association for similar reasons.

This, of course, it would never do. There are too many lawyers working for the government!

HOSPITAL STAFF TRANSACTIONS AND CLINICAL MEETINGS

TRI-STATE HOSPITAL, INC.

Shreveport

The meeting was called to order on January 12, 1939, by Dr. J. E. Knighton, Sr., with twenty-four members and six visitors present. The minutes were read and approved without correction. There being no unfinished business the matter of choosing annual officers was brought up and the following officers elected: Dr. T. J. Bush, chairman; Dr. Will P. Butler, vice-chairman; Dr. E. W. Booth, secretary, and Dr. J. E. Knighton, Jr., to retain his position in charge of the programs. It was moved and seconded that the secretary dispatch a note of sympathy to Drs. W. S. and D. L. Kerlin on the death of their father.

Dr. C. R. Gowen presented the case of a young, white, married female for whom interruption of pregnancy was done elsewhere after five months of gestation because of pernicious vomiting; emesis continued and pulmonary tuberculosis was discovered. Roentgenography revealed cardiospasm which was successfully treated by dilation, lavage, diet and antispasmodics. The case was liberally analyzed, and the question of anatomic surgery as done in Hirschsprung's disease was brought up.

Dr. T. J. Bush gave the history of a young, white female who six months previously noted a firm mass in the left upper abdomen. One fleeting attack of vague abdominal pain and slight occasional periods of nausea were experienced. A tumor mass was palpable in the left hypochondrium and cystoscopy revealed displacement of the left ureter laterally. There was no evidence of left renal pathology and operation was done. This disclosed a firm irregular nodular retroperitoneal mass about the size of a grapefruit, lateral to the spine, medial to the spleen and posterior to the stomach. Dr. Butler stated that the tumor was an actively malignant connective tissue tumor of unknown origin, and the diagnosis was a spindle cell sarcoma. Various angles of the case were discussed.

A summary of the Hospital services and of the deaths occurring in December was given with discussion. The meeting adjourned to reconvene, February 9, 1939.

Willis Taylor, M. D., Sec.

GRADUATE SCHOOL OF MEDICINE

LOUISIANA STATE UNIVERSITY MEDICAL CENTER

New Orleans

The scientific meeting of January was called to order by Dr. James T. Nix, Dean of the Graduate School of Medicine. Dr. Robert Cooper presented the following paper.

INTRAVAGINAL ROENTGEN THERAPY IN THE TREATMENT OF CARCINOMA OF THE CERVIX

Preliminary Report

The treatment of carcinoma of the cervix with x-rays delivered through a vaginal speculum is by no means a recent idea. In 1902 Caldwell[1] described a tube for intracavity irradiation which had the cathode in the spherical part and the anode in the end of one arm so that it could be introduced into body cavities for close irradiation of malignant tumors. In 1904 Allen[2] described the intravaginal irradiation of carcinoma of the cervix thus, "My own method is best described as follows:—the patient lies with the feet and legs supported in leather straps or broad rubber bands suspended from the chandelier or ceiling. The speculum is introduced through the central opening in a pad of vulcanite against which is placed the tube holder shield with large fenestrum, or the x-ray tube is suspended in front of the shield by separate cords."

Other radiologists tried the method at about this time, but it seemed never to have gained favor because of the hazard of shock, and because production of more efficient x-ray equipment made possible the external radiation of the pelvis. To quote Thomas[3]—"It is obvious that it was the effort to treat gynecologic conditions more successfully which led directly to great progress in roentgen therapy because the cross-fire technique was first adapted to the treatment of these pelvic conditions."

Research by Schafer[4] and Witte with the Lenard cathode ray tube in 1929 led to the development of a new "body cavity tube"[5, 6, 7] which was built by Seimens, Reiniger Co., Berlin. This tube has been used with seeming success not only in the treatment of primary cervical carcinoma, but also the parametrial extension of the disease. The tube is shock-proof and is counter-balanced with weights under a gynecologic table so that after the patient is in position the tube can be swung up easily and introduced into the vaginal speculum. The anode end of the tube can be placed as close to the cervix as desired. The primary beam can be directed straight forward, or a special adapter with metal grid strips may be placed over the end of the tube so that only the rays which leave the anode at an angle of 45° may be utilized when it is desired to treat the parametrium from either lateral vaginal fornix. In this manner large doses of filtered x-rays can be directed through the broad ligaments toward the pelvic walls and theoretically it seems to be sound therapy when used in addition to the radium tandem and external cross-fire technic. The tube is operated at 90 kv. and 4 ma. and with proper filtration will deliver x-rays of the quality of .7 mm. Cu half value layer.

To quote technic or results is not within the scope of this paper, but the reader is referred to recent articles on the subject by Schafer[8], Martius[9] and Ericksen[10] who offer no five year survival statistics, but who are very enthusiastic after having used the method for several years.

The attempt to employ intravaginal x-ray as a preliminary treatment to the application of radium was begun at the Charity Hospital in January, 1938. It was noticed that in obese patients with carcinoma of the cervix, little or no regression of the primary lesion was obtained by intensive external cross-fire radiation of the pelvis due to the relatively small depth dose effective at the cervix. Therefore the intravaginal approach was tried in order to secure sufficient shrinkage of the tumor mass to facilitate the introduction of a radium tandem.

The apparatus used was not shock-proof, and to lessen this hazard the patient was placed in a knee-chest position over a large rubber covered bolster. In this position the patient was fairly comfortable, the weight of the body being partially supported by the knees, and the danger of movement of the thighs and contact with the high tension current being minimized.

The largest size glass Ferguson speculum which the patient could tolerate was inserted into the vagina to visualize the cervix and protect the mucosa of the vaginal walls. Those patients who could not permit the introduction of a 3.5 or 4 cm. speculum were not accepted for treatment. A collar of lead rubber was fitted around the speculum for protection of the perineum and both were held in place by a master cone with a 3.2 cm. aperture fitted into the flange of the speculum. The x-ray tube was adjusted by looking through its spherical portion, with the assistance of a flashlight, so that the primary beam would pass through the glass speculum and fall directly upon the cervical mass fitted into its beveled end.

TECHNIC

A 100 kv. air cooled Coolidge therapy tube was used and the factors employed were 90 kv., 5 ma., no filter, 120 r.p.m./ air at 35 cm. This superficial technic was chosen as it was the only feasible one with the apparatus available, and too, it was desired to determine what effect unfiltered x-rays would produce on cervical carcinoma. Thirty patients in all were treated but only twenty-five finished the prescribed series. Of this number one patient received 400 r daily (3 mm. Al filter); eight patients received 680 r daily—no filter; twelve patients received 800 r every second day—no filter; four patients received 1200 r every second day—no filter.

The total dosage varied from 4,000 to 10,000 r, with 16 patients receiving 5,000 r. The intravaginal treatment was finished before the external irradiation was begun. The cross-fire technic to the pelvis and factors were as follows: 200 kv., 20 ma., 50 T. S. D., 0.5 mm. Cu, 2 mm. Al filter; six portals (two anterior, two posterior, two lateral), 10 x 15 cm., 42 r.p.m./ air. Two portals were treated daily, 200 r. per port to a total of 1600 r per port. Each portal was treated every third day.

The application of radium followed in most cases in two weeks. The radium technic was that of the French school (low intensity, heavy filtration, long time irradiation). The uterine tandem contained three tubes (10, 10, 5 mg.) with 1.5 mm. Pt filtration; the three vaginal colpostats contained a 15 mg. radium tube each with the equivalent of 2 mm. Pt filtration. The colpostats were held in place by iodoform "lap sixes." The radium applicators were removed every forty-eight hours, sterilized and reapplied. The total radium dosage was from 6,000 to 8,000 mg. hrs. with most of the patients receiving 7,000 mg. hrs.

The cases selected for intravaginal treatment were those having large cervical tumors of clinical stage II or III where the tumor mass obscured the external os but which could be fitted into the end of a large Ferguson speculum.

RESULTS

The immediate effect of the intravaginal radiation was pronounced. Secondary infection was cleared up and bleeding was stopped in all cases. The tumor mass regressed to within one-third to one-half of its former size and in some cases completely disappeared before external irradiation to the pelvis was begun. In a few patients the vagina showed a low grade erythema in the vaginal fornices, but it was transitory, and the pyrex glass of the speculum proved to be an adequate protection to the mucosa. It was found that the higher doses of 680 and 800 r gave the best results, but the four cases receiving 1200 r at a sitting experienced no untoward effects except that the knee-chest posture for so long an exposure proved tiresome for the patient. No patients were shocked, but two received superficial burns on the thigh from scattered irradiation when the lead foil covering the legs slipped. These burns later healed.

SUMMARY AND CONCLUSIONS

1. Twenty-five patients with stage II and III carcinoma of the cervix were treated with intravaginal x-ray in addition to external cross-fire irradiation to the pelvis.
2. All patients showed prompt clearing up of secondary infection, cessation of bleeding and marked regression of the tumor mass.
3. No patients developed constitutional symptoms or radiation sickness during the application of the intravaginal irradiation.
4. The regression of the tumor mass following irradiation markedly facilitated the dilatation of the cervical canal for the application of a radium tandem. This was of particular value in obese patients.
5. It is not thought that the application of superficial intravaginal x-ray therapy to carcinoma of the cervix had any appreciable effect upon parametrial extension of the disease.

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HUTCHINSON MEMORIAL CLINIC

New Orleans

Scientific Session on the Clinical Significance of Newer Methods for the Diagnosis of Intestinal Parasites, conducted by the Department of Tropical Medicine and Parasitology, Dr. E. C. Faust presiding.

Evaluation of the Older and Newer Technics (Dr. E. C. Faust): The available methods for diagnosis are as follows: I. Macroscopic or gross diagnosis.—1. Information obtained from inspection of the stool, whether dysenteric, i.e., with blood and mucus, diarrheic, i.e., watery, or tarry (suggestive but not diagnostically specific); 2. recovery of worms, as ascarids or pinworms, or parts of worms, as tapeworm "segments", evacuated in the feces or crawling out the anus. II Microscopic diagnosis.—A. Older technics. 1. Examination without attempts at concentration: (a) Films of feces, or blood and mucus discharged from the bowel, with or without dilution with tap water or physiological salt solution, (i) unstained, (ii) iodine-stained (Lugol's solution) for Protozoa, (iii) hematoxylin-stained for Protozoa; (b) films from proctoscopic examination; (c) films obtained following saline purgation or high enemas; (d) anal swabbing for pinworm eggs; (e) Stoll technic for counting helminth eggs. 2. Attempts at concentration: (a) For concentration of both Protozoa and Helminths, (i) centrifugation, (ii) sedimentation; (b) for concentration of helminth eggs only, (i) brine-floatation, by superimposed slide or by loop removal, (ii) Lane's centrifugal-floatation, with superimposed coverglass, (iii) hydrochloric acid-ether levitation, (iv) sugar solution or glycerine, levitation; (c) culture of *Endamoeba histolytica* or *Strongyloides*. B. Newer technics. While the older technics utilized in routine examination of feces have many excellent points in their favor, they fail to provide common methods for concentrated recovery and accurate diagnosis of both Protozoa and Helminths. Any improvement should be primarily directed towards the development of simple technics for the more ready recognition and diagnosis of both protozoan and helminth infections. This implies: (1) need for concentration of the organisms, i.e., their separation from fecal material and (2) their recovery in a condition which permits specific diagnosis.

Methods used by the Department of Tropical Medicine of Tulane University in attacking the problem.

1. A basic quantitative study was carried out in 1937 to determine the actual enrichment effected by centrifugation and by some floatation technic which we hoped to develop, suitable for the diagnosis of both Protozoa and Helminths. After many tests an aqueous solution of $ZnSO_4$ (sp. gr. 1.180) was found to be eminently satisfactory for this purpose. The results of this study showed that, with the cysts of *Endamoeba coli* as a standard

and with the unconcentrated iodine-stained film as a basis of comparison, the hematoxylin film had a 26 per cent loss of cysts; centrifugation, a 26 per cent loss; sedimentation, a 60 per cent loss, and $ZnSO_4$ centrifugal-floatation a 13 per cent loss. However, due to a proportionately greater loss of feces than of cysts, 16 centrifugations actually concentrated the cysts four-fold, three centrifugations, two-fold, and $ZnSO_4$ technic, four hundred-fold. Tests with *E. histolytica* cysts and hookworm eggs were equally encouraging.

2. Knowing the superior diagnostic potentialities of the $ZnSO_4$ centrifugal-floatation technic, the next step was to test it, by comparison with other technics, in actual routine laboratory diagnosis. A study of several hundred specimens during the summer of 1938 provided the following information: (1) The direct iodine-stained fecal film is diagnostically comparable to the hematoxylin-stained film for *E. histolytica*, but neither provides more than a fraction of the parasite yield present in a stool specimen. However, it is necessary to utilize one or the other of these direct films in order to obtain diagnosis of Protozoa in specimens that contain only trophozoites and precysts. (2) Centrifugation is very little better than unconcentrated films for either Protozoa or Helminths. (3) Brine floatation technics and Lane's centrifugal-floatation with brine as a levitating medium are excellent for concentrating most helminth eggs but shrink protozoan cysts so that they cannot be diagnosed. (4) $ZnSO_4$ centrifugal-floatation technic (sp. gr. 1.180), by any of the three methods of removing the surface film, is excellent for detecting small numbers of all protozoan cysts and helminth eggs present in the feces. In the series studied by us it doubled the diagnostic yield of Protozoa and multiplied by seven to ten the helminth infections, compared with the direct fecal films and centrifugation. The loop removal of the surface film is probably the most satisfactory because it is the simplest to carry out. (5) Since eggs of the pinworm (*Enterobius vermicularis*) are not commonly layed within the bowel, perianal swabbing is necessary. The NIH (National Institute of Health) cellophane anal swab has been found by us to be 74 times as efficient as unconcentrated films, five times as efficient as brine floatation and four times as efficient as the $ZnSO_4$ technic, in detecting pinworm infection. (6) A certain percentage of patients with amebiasis confined to the region of the cecum and appendix have no diagnosable evidence of the organism in their feces. In these cases saline purgation, or, if this is contraindicated, high tepid enemas of physiological salt solution, should be used to wash out the large bowel. Flecks of mucus in the discharge should then be immediately examined microscopically for amebae. (7) Intestinal Protozoa and many of the Helminths have a cyclical production and discharge respectively of cysts and eggs. Hence a single negative specimen, after examination by the best technics, will not necessarily mean absence of parasites. At least three examinations several days apart should be undertaken before a "negative" diagnosis is justified. For amebiasis six examinations are desirable and for oxyuriasis seven anal swabs are necessary. (8) For routine fecal examination of all patients in the Hutchinson Clinic we recommend the following: (a) The direct fecal film, one-half unstained and one-half stained with D'Antoni's iodine solution; (b) the $ZnSO_4$ centrifugal-floatation technic with loop removal of the surface film, stained with D'Antoni's iodine solution and mounted with a coverglass. (9) For patients with a history of oxyuriasis we recommend routine use of the NIH cellophane anal swab. (10) For patients suspected of having amebiasis, but diagnosed as "negative" after three complete examinations of the feces, we recommend either saline purgation or high tepid physiological saline enemas.

Demonstration of Technics (Dr. Willi Sawitz): The technics previously used in the Parasitology Laboratory for the recovery of Protozoa and Helminths in feces were the direct fecal film, unstained and iodine-stained, sometimes supplemented by the hematoxylin-stained film, and centrifugation. Since centrifugation has been proved to be no more efficient than the unconcentration technics, it is now replaced in our Laboratory by the zinc sulphate centrifugal-floatation technic, which has been found to be very satisfactory.

For routine fecal examination, a broader, so-called "fecal slide" is used in preference to the smaller microscopic slide. The broader slide (1½ by 3 inches) is used to prevent spilling of the fecal preparation and thus contamination of desk or microscope. For the direct film, a representative fleck of the fecal sample is transferred with a wooden applicator into one or two drops of physiological salt solution on a fecal slide. It is thoroughly mixed and spread over an area covering about the size of two 22 x 22 mm. coverglasses. One part is covered with a coverglass and to the other one drop of D'Antoni's iodine stain is added, mixed and then covered with a coverglass. For preparation of a supplementary hematoxylin-stained slide a representative fleck of the fecal specimen is transferred with a tooth pick or wooden applicator onto a microscopic slide and streaked out as evenly as possible; before it has time to dry, it is fixed by immersion in hot Schaudinn's fluid. It is then run through the hematoxylin-staining procedure. While the hematoxylin-stained film has the advantage that it can be examined with oil immersion magnification and kept permanently, it is so much more laborious and time consuming, that the direct iodine-stained film technic is employed as routine laboratory technic. Either of these unconcentration technics, however, is necessary in order to detect those infections in which only trophozoites and/or precysts occur. There is as yet no satisfactory concentration technic for the trophozoite or precystic stages of Protozoa.

For the zinc sulphate centrifugal-floatation technic a fecal suspension has to be prepared. Lukewarm tap water is added to the fecal sample which is broken up by shaking. This suspension is strained through one layer of wet cheesecloth into a Wassermann tube, and the preparation centrifugalized with the International clinical centrifuge. The time allowed for each centrifugation is between 45 and 60 seconds at top speed (i.e. 60 to 90 seconds from the time the centrifuge is turned on until it is turned off). Less time will result in loss of diagnostic material; more time does not improve the results. The supernatant fluid is now decanted and water again added. The sediment is broken up by shaking and the preparation recentrifugalized. This procedure of washing is repeated until the supernatant fluid becomes clear. It usually takes three to four centrifugations, the number of times being directly dependent on the amount of fecal material used and the consistency of the feces. The most satisfactory amount is somewhat less than half a gram of feces, which will just fill the concavity of the Wassermann tube. The last supernatant fluid is poured off and about two cubic centimeters of zinc sulphate solution of specific gravity 1.180 are added. This zinc sulphate solution is best prepared by adding 386 grams of $ZnSO_4$ U. S. P. granular to 1000 cu. cm. of distilled water. The packed fecal material in the sediment is broken up either by tapping the bottom of the tube or by shaking the tube in order to obtain a uniform mixture. The tapping technic is necessary for quantitative work; shaking by inverting the tube is quite sufficient for routine laboratory purposes. The tube is now filled to within half an inch of the rim with the zinc sulphate solution and is centrifugalized for about 45 seconds at top speed. The diagnostic material is now floating in the surface film and can be removed onto a slide by touch or loop removal technic. For the former, zinc sulphate solution of the specific gravity 1.180 is added until a small convex meniscus is formed over the level of the tube. A clean fecal slide is brought in contact with the meniscus, care being taken that the tube itself is not touched. The slide is then turned right-side up, one drop of D'Antoni's iodine solution is added and the slide rotated manually to insure uniform staining and to shift the material towards the center. The preparation is then covered with a coverglass. This technic gives quite satisfactory results, but it demands that the slides be perfectly clean. Even a trace of grease on the slide may prevent diagnostic material from adhering to the slide. Therefore, the loop removal technic is preferred. A bacteriologic loop is used. In order not to disturb the surface film, the loop is carefully inserted vertically just within the wall of the tube beneath the meniscus, turned horizontally and moved towards the center of the film. A loopful of levitated material is taken from this undisturbed portion of the film and is transferred onto a fecal slide. Two, three or more loops of material may be used. One drop of D'Antoni's iodine solution is added and the slide rotated manually to insure uniform staining and to shift the material towards the center. The preparation is then covered with a coverglass.

These technics are efficient for the diagnosis of all protozoan and helminthic infections in feces, except the seatworm, *Enterobius*, since *Enterobius* eggs are usually not deposited in feces but rather on the skin of the perianal folds. The best site for the recovery of *Enterobius* eggs is, therefore, the material obtained by scraping the perianal folds.

For the diagnosis of *Enterobius* infection the NIH swab is employed. The NIH swab is a glass rod, the tip of which is wrapped with cellophane which is held in place by a rubber band. The skin of the perianal fold is swabbed with this cellophane-tipped glass rod. It is not introduced into the anus. The glass rod may be kept in a glass tube three or four days before it is examined. For examination, the rubber band is pushed back and the cellophane flattened by means of a forceps or hemostat. It is placed face downwards into one or two drops of physiological salt solution on a slide and pressed between two slides by means of a metal compressor or clamps. It is then examined with low magnification.

Clinical Implications (Dr. J. S. D'Antoni): The number of positive diagnoses of intestinal parasitic infections has been increased by the utilization of the zinc sulphate centrifugal-floatation technic.

Dr. Faust has shown that a diagnosis can be made twice as frequently for *Endamoeba histolytica* infections by the use of the new method; however, this figure is based on findings in a group heavily infected with this parasite, whereas in patients harboring relatively few of these amebae, i. e., light infections, like many of those in the Hutchinson Clinic, an even greater increase in the diagnostic yield may be anticipated. Cases with light infections, previously not diagnosed because of inefficient methods, will now be diagnosed, and intestinal parasites as a group will be found to be more universal and, in turn, the incidence, to appear much higher.

From the clinical viewpoint we are confronted with two questions: Are these individuals harboring a parasite which is not a tissue invader but is simply a lumen commensal, or are these parasites producing clinical symptoms which were formerly diagnosed as neurasthenia, chronic cholecystitis, chronic appendicitis, or colitis? Of paramount importance to the physician is the question of treatment. Shall specific medication be given all cases harboring pathogenic parasites?

Since every individual harboring pathogenic parasites is a hazard for the community as well as for himself, the necessity of eliminating this danger is obvious from the public health point of view. On the other hand, the physician has to consider the cost of treatment, since many drugs are too expensive for his patient. Therefore, the decision must be made on the basis of whether the parasite is likely to produce symptoms of clinical grade.

In infections with *E. histolytica*, the only known pathogen in the group of amebae, even the lightest infections have to be treated, since the danger of the development of an acute amebic enteritis or of an amebic liver abscess is always present, although for a time no symptoms may be detected. Even those who consider the possibility that *E. histolytica* sometimes may live as a lumen parasite, admit this danger.

In the group of intestinal helminths those of importance in this area include *Ascaris*, *Trichocephalus*, *Strongyloides*, hookworms, *Enterobius* and the tapeworms.

1. *Ascaris*. In ascariasis we do not expect an increase of diagnosed cases by the new technic, since one female lays between 100,000 and 200,000 eggs daily, so that infection with a single female can readily be diagnosed by plain smear examination. Patients having even light infections with *Ascaris* should always be treated until cured, not only because of the actual and potential damage produced by this worm, but also because patients, most commonly children, seed the soil of their environments with *Ascaris* eggs, which constitute a prolonged menace to themselves and their associates, because of the large number of eggs produced by each worm and the unusual resistance of the eggs in the soil to desiccation, and freezing.

2. *Trichocephalus*. Since the number of *Trichocephalus* eggs discharged in the feces is probably not an index of the worm burden carried by the patient, the expected finding of additional cases by the new method does not necessarily mean that these are cases of light infection. On the contrary, this may prove to be the only means by which clinical infections might be diagnosed.

3. *Strongyloides*. In strongyloidiasis we anticipate the discovery of a higher percentage of cases, since $ZnSO_4$ centrifugal-floatation levitates the larvae in a diagnosable state. The menace of this parasite, and particularly the danger of superinfection, hyper-infection and reinfection warrant treatment. Besides, the finding of a single larva does not permit an estimation of the intensity of the infection. Some idea of the stage and degree of clinical involvement of this infection may be obtained by the blood picture, for in acute cases we usually see a high eosinophilia with leukocytosis, whereas in the chronic case leukopenia with a lower eosinophil count is present. It is in the latter individual that superinfection, hyper-infection and reinfection most frequently occur; in these latter cases the disease is most insidious and frequently serious.

4. Hookworms. In cases of hookworm infection the expected increase will probably be due to the detection of lightly infected persons, since the presence of less than 24 adult worms will usually show no eggs on 3 unconcentrated fecal smears. However, with the $ZnSO_4$ technic, the presence of a much smaller number of worms will be diagnosable.

Although we have no definite proof, we can feel almost certain that toxemia is not usually produced by such a small number of worms. Nevertheless, treatment of individual cases seems to be indicated.

5. *Enterobius* (the pinworm or seatworm). The NIH swab technic has already provided the diagnosis of a much larger number of positive cases. The number of eggs found by anal swab is no index of the number of worms actually present. Since one female *Enterobius* worm lays between 10,000 and 20,000 eggs in the anal region, contaminating the underwear, clothes and bed linens, the spread of this disease is both rapid and insidious. The eggs are very resistant, may contaminate an entire room, and may be carried by dust inhalation to an uninfected individual. In a recent investigation in Washington viable *Enterobius* eggs were found in the dust on a chandelier. With this in mind the incidence figure of 97 per cent recently found by our department in a children's institution in New Orleans is not at all surprising. Although the treatment of an individual infected with even a single *Enterobius* is of paramount importance, the eradication of *Enterobius* in a family or an institution necessitates the destruction of all eggs present in the home and immediate surrounding areas.

6. Tapeworms. (a) *Taenia saginata* (the beef tapeworm) is by far the most commonly recognized tapeworm in this locality, while *Taenia solium* (the pork tapeworm) is relatively rare. The Taenias will probably not be diagnosed more frequently than at present, because the presence of proglottids in the stools, first observed by patients themselves, is usually the earliest means of diagnosis. Treatment is necessary because of clinical symptoms in both of these species, and in the case of *T. solium* there is the very real danger of the development of a severe cysticercosis due to larval infection of man.

(b) *Hymenolepis nana* (the dwarf tapeworm). There is to be expected an increase in the diagnosis of this infection, which is particularly common in children. It should be treated because of the resulting toxemia, present at times even in light infections.

With the $ZnSO_4$ centrifugal-floatation and the NIH swab technics there arises another point of clinical importance, namely, the efficiency of helminthicidal and protozoicidal drugs. It may be found that the drugs now being used as curative may only reduce the intensity of infection to a level not detected by the older technics.

An increase in the diagnosis of intestinal parasitic infections is anticipated, this increment being inversely proportional to the intensity of the infection.

This probable increase will provide an etiologic background for many vague and non-specific clinical syndromes.

All cases of intestinal infections with pathogenic parasites should be treated until cured, since the number of parasites detected is in many instances not an index of host burden and since the presence of these pathogens is hazardous both to the individual and to the community.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR

February 1.	Radio Talk, Orleans Parish Medical Society, 8:45 to 9 a. m., WDSU. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m. Mercy Hospital Staff, 8 p. m. Hutchinson Memorial Clinic Staff, 8 p. m.
February 2.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
6-9.	New Orleans Graduate Medical Assembly, Roosevelt Hotel.
February 6.	Board of Directors, Orleans Parish Medical Society, 8 p. m. Pathologic Conference, Hotel Dieu, 8:15 p. m.
February 7.	Eye, Ear, Nose and Throat Hospital Staff, 8 p. m.
February 8.	Radio Talk, Orleans Parish Medical Society, 8:45 to 9 a. m., WDSU. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m. Touro Infirmary Staff, 8 p. m.
February 9.	Joint meeting, Orleans Parish Medical Society and New Orleans Graduate Medical Assembly, 8 p. m.
February 13.	No meeting, Orleans Parish Medical Society.
February 14.	Eye, Ear, Nose and Throat Club, 8 p. m.
February 15.	Radio Talk, Orleans Parish Medical Society, 8:45 to 9 a. m., WDSU. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m. Charity Hospital Medical Staff, 8 p. m.
February 16.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
February 17.	I. C. R. R. Hospital Staff, 12 noon. New Orleans Dispensary Staff, 8 p. m.
February 20.	Hotel Dieu Staff, 8 p. m.
February 22.	Radio Talk, Orleans Parish Medical Society, 8:45 to 9 a. m., WDSU. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m. French Hospital Staff, 8 p. m.
February 23.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
February 24.	L. S. U. Faculty Club, 8 p. m.
February 27.	Orleans Parish Medical Society, 8 p. m.

During the month of January, the society held two meetings, the annual Installation Meeting on January 9 and a regular scientific meeting on January 23.

At the Installation Meeting the following program was presented:

Invocation: Reverend T. Russell Nunan, Director Berean Community Center.

This Changing World: Honorable St. Clair Adams.

Address of Retiring President, Dr. Shirley C. Lyons.

Address of President-elect, Dr. Cassius L. Peacock.

Presentation of Past-President's Certificate: Dr. James T. Nix.

Installation of Officers for 1939.

A reception, in charge of the Woman's Auxiliary, followed the meeting.

The following program was presented at the meeting of January 23:

SYMPOSIUM ON RECENT ADVANCES IN SCLERODERMA

The Dermatologic Aspect of Scleroderma.
By..Dr. James K. Howles.
The Pathologic Physiology of Scleroderma.
By invitation..............................Dr. George Burch.
Surgical Consideration of Scleroderma.
By Drs. Alton Ochsner and Michael E. DeBakey.

Annual reports of officers and special and standing committees were read.

The attention of the members is called to the fact that the regular meeting of the society for

Monday, February 13, will be dispensed with because of joint meeting of the society with the New Orleans Graduate Medical Assembly on February 9. It is urged that all members make an earnest effort to attend as many meetings of the assembly as possible.

It is with regret that I report the loss by death of Dr. Frank J. Hartley, December 25, 1938.

The following doctors were elected to membership:

Active: Drs. Kermit Brau, Henry C. Hatcher, and Charles R. Hume.

Intern: Drs. Lawrence W. Burt, Edmond Edelson, William E. Ehlert, Irving M. Essrig, Milton Finn, Hirsh J. Frachtman, Thomas A. Glass, Jr., John A. Holmes, John R. Kight, Albert P. Kimball, Robert A. Knight, Vernal L. Lance, Robert C. Lynch, Marshall L. Michel, Jr., Richard E. C. Miller, Leonard Nelken, William W. Pugh, Jr., William S. Randall, Paul Sonken, Joseph Stamm, and William W. Watkins.

Drs. Alfred Jacoby and Clarence J. Wichser have been reinstated to Active Membership.

NEWS ITEMS

Dr. E. F. Salerno was elected Medical Director of the Orleans Parish School Board to fill the vacancy caused by the death of Dr. John Signorelli.

Dr. Jules Myron Davidson was elected Southern District Deputy Grand Consul of Phi Delta Epsilon National Medical Fraternity at its meeting in Chicago.

Dr. Thomas B. Sellers attended the meeting of the American College of Surgeons, January 18 and 19, in Nashville, Tennessee.

At the recent meeting of the Phi Rho Sigma International Medical Fraternity held in Philadelphia, Dr. Francis L. Jaubert was named historian.

The following officers of the Mercy Hospital were installed at the annual banquet and scientific meeting held January 4: Chairman, Dr. John Irwin; vice-chairman, Dr. Lloyd Hanckes; secretary, Dr. Carroll Gelbke; treasurer, Dr. Percy Phillips and members of the board, Drs. Max Green and Edwin Zander.

Recently elected officers of the French Hospital are Dr. Maurice Lescale, president; Dr. N. J. Tessitore, vice-president; Dr. R. E. Rougelot, secretary-treasurer. The speaker at the annual meeting was Dr. Edward L. King.

Dr. George F. Roeling has been certified by the American Board of Psychiatry and Neurology.

Dr. Leon J. Menville addressed the Rapides Parish Medical Society at Alexandria, January 3.

Drs. Emile Naef and Conrad G. Collins spoke before the Pike County Medical Society in McComb, Mississippi, January 5.

Dr. William Harvey Perkins addressed the Young Women's Christian Association, January 10.

Dr. John A. Lanford read a paper before the Touro Infirmary Auxiliary on January 11.

Dr. Chaille Jamison spoke before the Tulane Medical History Society, January 17.

On January 13-14, Dr. Paul T. Talbot visited the Fourth District at Shreveport in the interest of the membership of the State Society.

Drs. George C. Battalora, Frank Brostrom, and Guy A. Caldwell attended the meeting of the American Orthopedic Association at Memphis, January 17-19.

Dr. Alton Ochsner was guest speaker before the Southern Section meeting of the American Laryngological, Rhinological and Otological Society, Inc., January 14, in New Orleans, and January 17 addressed the Nashville Academy of Medicine.

Drs. James T. Nix and Alton Ochsner were guest speakers of the Southern Sectional meeting of the American College of Surgeons in Nashville, January 18-20.

Dr. Edgar Burns has been appointed Chairman of the Scientific Essays Committee for 1939. Any members desirous of appearing on the program are urged to communicate with Dr. Burns.

Members attending the meeting of the Southern Interurban Clinical Club at Nashville, Tennessee, January 27 and 28, were Drs. John B. Elliott, Charles L. Eshleman, John T. Halsey, Chaille Jamison, Philip H. Jones, Jr., Randolph Lyons, John H. Musser, and Roy H. Turner.

Dr. Charles A. Bahn was awarded the annual Rotary Cup by the Rotary Club for "outstanding civic services" which were his part in reorganizing the Louisiana Society for the Prevention of Blindness and increasing its membership to 400.

TREASURER'S REPORT

Actual book balance 11/30/38	$3,636.28
December credits	$1,885.97
Total credits	$5,522.25
December expenditures	$1,723.31
Actual book balance 12/31/38	$3,798.94

LIBRARIAN'S REPORT

In connection with the December report, a summary of the work of the Library for the year is given for purposes of comparison. The Library has loaned to doctors during December, 743 books and journals, with an additional 713 items to students for overnight use, bringing the total for the month to 1,456. It is interesting to note that, for the year 1938, 10,667 books and journals have been loaned to doctors—approximately one book a month to each active member of the society. This total is 1,390 more than the circulation for 1937, and 2,570 more than the circulation for 1936.

The Library has been increased by 48 volumes during the month, of which 6 were received by gift, 6 from the New Orleans Medical and Surgical Journal, 18 by binding, and 18 by purchase. A notation of new titles of recent date is given herewith. For the year, 727 volumes have been added to the collection, bringing the total number of books in the Library on December 31, to 23,214. The Library receives by subscription and gift 250 medical journals.

The reference service given by members of the staff of the Library to the profession is worthy of particular mention, since this is a field entirely omitted in many medical libraries, doctors being required to gather all their own references. Our Library staff during 1938 has collected material on 132 different subjects, at the particular request of physicians; all of this in addition to calls for specific titles and for needs which could be filled at once by books and by use of the card catalogue.

During the summer the society approved the establishment of an out-of-town membership in the Library for physicians, and the announcement of the plan was sent to members of the Louisiana State Medical Society outside of New Orleans, and many physicians in the larger towns and cities of Mississippi and Alabama. Numerous inquiries were received and full explanation was sent to those interested. Within the first three months, sufficient memberships have been paid to cover completely the initial cost of the service for printing and postage, and we are thus able to report that the society has been at no expense for this extension service. Sufficient supplies are in hand for subsequent calls. In this connection a collection of 7,700 reprints, of dates ranging from 1930 to 1938, has been indexed and filed for immediate use. This file of recent reprints is being enlarged as rapidly as possible and the reprints and duplicate unbound journals will be used for out-of-town loans, thus keeping carriage charges on the package libraries at a minimum and at the same time retaining our bound journal files in the Library for the use of members of the society.

Miss Marshall represented your Library at the annual session of the Medical Library Association for the twelfth consecutive year, in June, and was elected a member of the Executive Committee. These meetings enable her to establish inter-library relations of inestimable value to our own Library.

NEW BOOKS

Eisendrath, D. N.: Urology, 1938.

Boyd, William: Surgical Pathology, 1938.

Watson, Leigh: Hernia, 1938.

Ballenger, W. L.: Diseases of the Nose, Throat and Ear, 1938.

Dooley, M. S.: Intern's Handbook, 1938.

Short, A. R.: Synopsis of Physiology, 1938.

Nelson, Thomas and Sons: Loose-leaf Living Medicine, v. 1-a, 1938.

Henry Phipps Institute: Twenty-seventh Report, 1936-37; 1938.

American Therapeutic Society Transactions, 1937-38; 1938.

Medical Association of the State of Alabama Transactions, 1930; 1930.

Gilbert C. Anderson, M. D.,
Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

Louisiana State Medical Society	April 24-26, 1939	Alexandria.
New Orleans Graduate Medical Assembly	February 6-9, 1939	New Orleans.

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Wednesday of every month	Baton Rouge.
East and West Feliciana	First Wednesday in February	Jackson.
Morehouse	Second Tuesday of every month	Bastrop
Orleans	Second and fourth Monday of every month	New Orleans.
Pointe Coupee	First Tuesday in March	
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	

ALEXANDRIA HOST TO THE STATE MEDICAL SOCIETY

The Louisiana State Medical Society will hold its sixtieth annual meeting in Alexandria on April 24, 25, and 26, 1939. The largest gathering of physicians in the history of Alexandria and one of the largest state medical meetings is expected.

Alexandria, parish seat of Rapides, is ideally located for a convention city. For years it has been known as the "Heart of Louisiana." It qualifies for this title not only by its geographic location in the center of the state, but also because of the warmth of its welcome to visitors.

Transportation facilities are almost ideal. Alexandria is more easily and more economically reached than any other city in the state. It is the largest railroad center in the state, outside of New Orleans. Sixteen passenger trains arrive and depart in one day. Twenty-five busses come in and go out to almost every point in the state.

Hotel accommodations are excellent. Three large modern hotels and several smaller ones afford accommodations at reasonable rates.

Several important hospitals are located in Alexandria and Pineville: The U. S. Veteran's Facility Hospital has a 500 bed capacity; the Central Louisiana State Hospital has 1200 beds; the Central Louisiana State Charity Hospital, 200 beds; the Baptist Hospital has a 100 bed capacity.

The organizations in concurrent session are the State Pediatric Society, The Gynecological Society, The House of Delegates, and The Woman's Auxiliary to the State Medical Society.

Reservations may be made by writing Dr. L. D. Gremillion, Alexandria, Louisiana, or simply writing the hotel.

THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

Almost by the time that the Journal reaches its readers, the New Orleans Graduate Medical Assembly will have started February sixth; nevertheless, to those members of the State Society who have not as yet made up their minds to attend this outstanding gathering of medical speakers, we urge their attendance. A group of lecturers from the large centers of the United States and Canada will tell what they know about their particular specialties. They have been asked to make these talks, clinics and demonstrations simple, concise and practical. They have been requested not to dilate upon some abstruse phase of their specialties, but to bring to every listener their experience in every day disorders. As they will do this, it is obvious that the talks will be of value not only to the man who is specializing but to the man in general practice; even the specialist in other fields can learn about the more important features of another specialty.

In addition to the scientific program will be the get-together luncheons every day. There will be a smoker, and there will be considerable opportunity to enjoy the social aspects of the medical meeting.

ST. TAMMANY PARISH MEDICAL SOCIETY

The St. Tammany Parish Medical Society met in Slidell on December 8, 1938, with the following members present: Drs. F. R. Singleton, J. K. Griffith, R. C. Young, H. E. Gautreaux, and Dr. W. D. Simmons as guest. In the absence of Dr. F. F. Young, Sr., president, Dr. Singleton served as chairman. Minutes of last meeting were read and approved.

Under the head of new business, collection of dues for state and parish medical societies were in order. The following officers were elected to serve for the year 1939: Drs. F. R. Singleton, president; R. C. Young, vice-president; H. E. Gautreaux, secretary-treasurer; R. C. Young, delegate; F. F. Young, Sr., alternate.

A motion introduced by Dr. J. K. Griffith, seconded by Dr. R. C. Young was as follows (the Chair at this time appointed Drs. H. E. Gautreaux and R. C. Young to draw up the following resolution):

"*Resolved,* That the State Society take notice of the fact of the condition of the rural physician in the state due to the lack of work and inability of many people to pay for medical services. It is well known that the rural physician has rendered faithful service and has been to the utmost stalwart and devoted to his professional duties, at a sacrifice to his personal welfare. Times come into the lives of everyone of us when sooner or later we must seek the same medical advice we have always given. It is a fact that hospital dues and fees for service will be, and always have been, a great financial strain to the rural physician.

"*Resolved,* That the St. Tammany Parish Medical Society instruct its delegate, by this resolution, to invoke the aid of all parish societies and the State Association for the following: That a private ward or group of rooms be set aside in all state hospitals for the immediate family of the physician and his dependents, where they may receive medical or surgical aid as needed."

H. E. Gautreaux, M. D., Sec.

DESOTO PARISH MEDICAL SOCIETY

The DeSoto Parish Medical Society met at the Mansfield Sanitarium on Tuesday evening, December 13, in business session. A delicious dinner was served by the Sanitarium, after which the society elected officers for the ensuing year, with the following results: Drs. W. B. Hewitt, president; R. P. Thaxton, vice-president; R. A. Tharp, secretary-treasurer and delegate; W. G. Jones, alternate.

R. A. Tharp, M. D., Sec.

MOREHOUSE PARISH MEDICAL SOCIETY

The regular meeting of the Morehouse Parish Medical Society was held at the Morehouse Country Club in Bastrop on Tuesday, December 13. Officers elected for 1939 were as follows: Drs. F. B. Ogden, president; J. L. Rawls, vice-president; C. J. Raney, secretary-treasurer; W. A. Rodgers, delegate; J. L. Rawls, alternate.

Following the election, a delicious chicken barbecue supper was served to the members present, including Drs. Rodgers, Ogden, Owens, Rawls, Raney, Sims, Patterson, Jones and Leavell. Dr. Paul Herron, who recently moved from Monroe to Oak Ridge, was a guest at the meeting and was accepted as a member of the society.

C. J. Raney, M. D., Sec.

JEFFERSON DAVIS PARISH MEDICAL SOCIETY

At a called meeting of the society held in Jennings, December 8, 1938, the following officers were elected for the coming year: Drs. Morgan Smith, president; John G. McClure, vice-president; L. E. Shirley, secretary-treasurer; John G. McClure, delegate; R. S. Kramer, alternate.

On motion of Dr. F. W. Harrell, duly seconded by Dr. John G. McClure, the following resolution was unanimously adopted.

"*Whereas*, In the past the Doctors of Medicine in the Parish of Jefferson Davis, State of Louisiana, have given freely of their time and talent in serving the needs of the poor, without thought of recompense, and

"*Whereas*, There has come into existence certain governmental agencies, more specifically the Public Welfare Administration, created by the political government and supported by taxation of all the people, whose duty is to care for the sick and indigent, and

"*Whereas*, These agencies have found ways to, and do, recompense all classes of men except the Doctors of Medicine for services or goods rendered the members of their rolls, and

"*Whereas*, We believe that we are being discriminated against and as a matter of right and justice:

"Now, therefore, be it *Resolved*, By the members of the Jefferson Davis Parish Medical Society, in legal session assembled, on this the eighth day of December, 1938, in the City of Jennings, Louisiana, that from and after this date we will furnish no certificate of examination to welfare patients, or applicants therefor, except for cash, or on order from the welfare office accepting liability."

L. E. Shirley, M. D., Sec.

LAFAYETTE PARISH MEDICAL SOCIETY OFFICERS, 1939

President: Dr. Robert Kapsinow, Lafayette.
Vice-President: Dr. L. B. Long, Lafayette.
Secretary-Treasurer: Dr. William Melancon, Carencro.
Delegate: Dr. Louis Prejean, Scott.
Alternate: Dr. L. O. Clark, Lafayette.

AVOYELLES PARISH MEDICAL SOCIETY OFFICERS, 1939

President: Dr. L. W. Holloman, Marksville.
Vice-President: Dr. J. C. Goldner, Marksville.
Secretary-Treasurer: Dr. K. A. Roy, Mansura.
Delegate: Dr. S. J. Couvillon, Moreauville.
Alternate: Dr. R. G. Ducote, Bordelonville.

CALCASIEU PARISH MEDICAL SOCIETY OFFICERS, 1939

President: Dr. W. A. K. Seale, Sulphur.
Vice-President: Dr. C. O. Frederick, Lake Charles.
Secretary-Treasurer: Dr. Eleanor Cook, Lake Charles.
Delegates: Drs. S. F. Hatchette and Walter Moss, Lake Charles.
Alternates: Drs. Eleanor Cook and I. M. Lamansky, Lake Charles.

OUACHITA PARISH MEDICAL SOCIETY OFFICERS, 1939

President: Dr. John Pracher, Monroe.
Vice-President: Dr. F. P. Rizzo, Monroe.
Secretary-Treasurer: Dr. L. L. Titche, Monroe.
Delegates: Drs. F. C. Bennett, G. W. Wright, A. L. Peters, all of Monroe.

WASHINGTON PARISH MEDICAL SOCIETY OFFICERS, 1939

President: Dr. J. S. Desporte, Bogalusa.
Vice-President: Dr. W. S. Harrell, Bogalusa.
Secretary-Treasurer: Dr. B. Freedman, Franklinton.
Delegate: Dr. R. R. Ward, Bogalusa.
Alternate: Dr. J. S. Desporte, Bogalusa.

FIFTH DISTRICT MEDICAL SOCIETY OFFICERS, 1939

President: Dr. J. Q. Graves, Monroe.
Vice-President: Dr. Joe Whitaker, St. Joseph.
Second Vice-President: Dr. M. W. Hunter, Monroe.
Secretary-Treasurer: Dr. W. M. Johnson, Monroe.

NEWS ITEMS

Dr. Emile Naef, Assistant Professor, Department of Pediatrics, Tulane University and Dr. Conrad Collins, Assistant Professor, Department of Gynecology, Tulane University were guests of the Pike County Medical Society in McComb, Mississippi on January fifth. Dr. Naef presented a paper on "First Infection Type Tuberculosis in Childhood" and Dr. Collins presented a paper on "Causes and Treatment of Vaginitis."

Drs. J. A. O'Hara, C. L. Peacock and P. T. Talbot attended the meeting of the St. Tammany Parish Medical Society on January 19.

The appointment of J. Thornwell Witherspoon, M. D., formerly of Indianapolis and New Orleans, to be editor of Modern Medicine, national medical journal published in Minneapolis, was announced by the publishers in January.

The Faculty of the Harvard School of Public Health offers a short course of lectures, clinics and demonstrations on the virus and rickettsial diseases during the week of June 12-17, 1939. There is a fee of twenty-five dollars. Further information may be obtained from Dr. Cecil K. Drinker, 55 Shattuck St., Boston, Mass.

THE SOUTHEASTERN SURGICAL CONGRESS

The Southeastern Surgical Congress announces the Tenth Anniversary Post-Graduate Surgical Assembly to be held in Atlanta, March 6-8, 1939, at the Biltmore Hotel.

Amongst others who will appear on the program are Drs. Mims Gage and Howard Mahorner, of New Orleans; W. Wayne Babcock, of Philadelphia; T. Z. Cason, of Jacksonville, Fla.; George Crile, of Cleveland; W. J. Mixter, of Boston; Frank Dickson, of Kansas City; Morris Fishbein, of Chicago; Mont Reid, of Cincinnati.

CONGRESS ON OBSTETRICS AND GYNECOLOGY

The American Congress on Obstetrics and Gynecology will be held in Cleveland, Ohio, September 11-15, 1939, sponsored by the American Committee on Maternal Welfare, Inc. Participating in the meeting are a very large number of national and local societies interested in gynecology and obstetrics and amongst which is the New Orleans Gynecological and Obstetrical Society. The preliminary program shows that there will be held medical sections, round tables and sessions that have to do with the legal, sociologic and ethical aspects of maternity.

Full information concerning this meeting may be obtained from the central office, 650 Rush Street, Chicago, Illinois.

FREE FILMS

The American Medical Association has a number of motion picture films for loan, among which are several on physical therapy. The borrower is expected to pay the expense both ways and is expected to be careful when running them.

Dr. Thomas G. Hull, Director, Scientific Exhibit, has charge of the distribution.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The general oral, clinical and pathological examinations for all candidates, Part II Examinations (Groups A and B), will be conducted by the entire Board, meeting in St. Louis, Missouri, on May 15 and 16, 1939, immediately prior to the annual meeting of the American Medical Association. Notice of time and place of these examinations will be forwarded to all candidates well in advance of the examination dates.

SPEAKER'S SERVICE

The Public Relations Bureau of the Medical Society of the State of New York in Bulletin No. 23, has an excellent outline for a talk on pneumonia. This outline is so arranged that it may be used either for a group of physicians or for a group of lay individuals. With it there is also a bulletin by Dr. Haven Emerson entitled "Signs of the Times in Public Health." Either of these two bulletins may be obtained from the editorial offices of the Journal or from the above office of the society in New York City. They have also issued a reprint entitled "The Doctor at the Crossroads" written by Dr. Nathan B. van Etten. Single copies of this reprint are available at five cents each; fifty may be obtained for one dollar.

INFECTIOUS DISEASES IN LOUISIANA

Dr. J. A. O'Hara, epidemiologist for the State of Louisiana, has furnished us with the weekly morbidity reports for the state, which contain the following summarized information: For the week ending December 17, the fiftieth week in the year, syphilis led all reported diseases, as is the custom. This week there were 107 cases, and the following diseases appeared in numbers greater than ten: 68 cases of pneumonia, 38 of pulmonary tuberculosis, 32 of diphtheria, 29 of cancer, 26 of measles, 25 of scarlet fever, 16 of gonorrhea, 13 of typhoid fever and 12 of malaria. Of the unusual diseases, a case of smallpox was reported from Red River Parish this week. It is rather remarkable that of the thirteen cases of typhoid fever listed, no one single parish reported more than one case. For the week ending December 24, there are listed 100 cases of syphilis, 49 of pneumonia, 47 of pulmonary tuberculosis, 40 of cancer, 36 of measles, 28 of gonorrhea, 22 of scarlet fever, 16 of whooping cough and 10 each of influenza and malaria. Another case of smallpox was found this week in Bienville Parish. Iberville Parish listed a case of poliomyelitis and Orleans one of tularemia. The last and final week of the year found syphilis still leading all reported diseases, but with comparatively small incidence, 73 cases being reported this week, probably the influence of Christmas. Next came 52 cases of pneumonia, 35 of cancer, 29 of measles, 23 of pulmonary tuberculosis, 18 of gonorrhea, 13 of diphtheria and 10 of influenza. A case of typhus fever was reported from Ascension Parish; one of undulant fever from Caddo, and one of paratyphoid fever from Orleans. The first week in the new year found the ubiquitous syphilis had jumped up more closely to the usual figure, 115 cases being discovered this particular week. There was evidently a mild epidemic of measles, as 63 cases were listed for the week of January 7, exceeding by far the usual number discovered at this time. Other diseases in double figures were as follows: 50 cases of pneumonia, 22 of scarlet fever, 17 of cancer, 11 of diphtheria, and 10 each of pulmonary tuberculosis and typhoid fever. Of the unusual diseases, undulant fever was discovered in Jefferson Parish; smallpox, one case, in Ouachita, and one case of paratyphoid fever in Orleans.

HEALTH OF NEW ORLEANS

The Department of Commerce, Bureau of the Census, reports that for the week ending December 10, there occurred in the City of New Orleans 170 deaths, which were divided 107 white and 63 negro. This compared very well with the previous week at which time 212 New Orleans' citizens died. The deaths in infants for this period of time were 18 in number. For the next week, which came to a close December 17, the total deaths had increased 13 in number, in all 183, divided 119 in the white and 64 in the negro race. Of children under one year of age, 14 white and two negro expired. For the week which came to a close the day before Christmas, there was a slight increase in the number of deaths over the previous week; this time the negro race was responsible for the greater part of the increase, there being 75 of this race to die. One hundred and thirteen white people died, a total for the two of 188. There were 19 deaths in children under one year of age. The last week in the year came to a happy close because there were 46 less deaths than in the previous week and fewer than in any one week for some time. Of the 142 New Orleanians dying in Christmas week, 81 were members of the white race and 61 were members of the negro race. Partial responsibility for the small number of deaths is due to the fact that there were only eight deaths in little babies.

WOMAN'S AUXILIARY

Louisiana State Medical Society

President—Mrs. Frederick G. Ellis, Shreveport.
President-elect—Mrs. S. M. Blackshear, New Orleans.
First Vice-President—Mrs. C. A. Martin, Welsh.
Second Vice-President—Mrs. A. G. McHenry, Monroe.
Third Vice-President—Mrs. D. C. McBride, Alexandria.
Fourth Vice-President—Mrs. A. F. Hebert, New Orleans.
Treasurer—Mrs. O. C. Rigby, Shreveport.
Recording Secretary—Mrs. D. T. Milam, Monroe.
Parliamentarian—Mrs. A. A. Herold, Shreveport.
Corresponding Secretary—Mrs. C. B. Erickson, Shreveport.
Historian—Mrs. W. P. Gardiner, New Orleans.

YEAR BOOK

The Year Book, combining the administrations of two Auxiliary presidents, Mrs. George Feldner, 1937-38 and Mrs. Frederick G. Ellis, 1938-39, is off the press. It is beautifully printed and meticulously planned to give information and inspiration.

The roll taken from the treasurer's record in 1938, shows Louisiana had a total of 463 auxiliary members, allocated as follows: Caddo, 90; Jefferson Davis, 9; Iberville, 9; Orleans, 244; Ouachita, 31; Rapides, 27; St. Mary, 8; St. Tammany, 8; Terrebonne, 4; Tri-Parish, 16; Washington, 8; members at large, 9.

Let me quote you the message in the Year Book from the President of the Louisiana State Medical Society.

THE PRESIDENT'S MESSAGE

Greetings and congratulations!

In anticipating the service to be rendered by the Louisiana State Medical Society during the current year, it is most heartening to have at our command such an asset as the Woman's Auxiliary, confident as I am that it will live up to its previous traditions, both in loyalty to our cause and in constructive contributions to our program. With the fostering of such helpful cooperation, I have the very definite conviction that we shall be able to build progressively and stably.

Of paramont importance to the greater success of the State Medical Society, we need your assistance in:

Securing prompt, complete and accurate birth certificates.

Reducing infant mortality rates, through education.

Encouraging universal immunization of every pre-school child against diphtheria, and vaccination of every citizen of the state against smallpox and typhoid fever.

Stimulating interest in the enforcement of sanitary regulations governing milk, meat, water and other foods, and in the registration of all drugs.

Promoting civic improvements and installing municipal utilities.

Soliciting membership in the State Medical Society of all eligible doctors.

Cooperating with parish and district medical societies, and in disseminating public health information.

You may count on my fullest cooperation—personal and official—to the end that the Woman's

Auxiliary may accomplish jointly with the State Medical Society, a program of helpfulness to humanity.

Yours very truly,
J. A. O'Hara, M. D.,
President.

Mrs. R. L. Simmons of Shreveport, Chairman of Printing and Supply, edited the Year Book.

ORGANIZATION

Mrs. Roy Carl Young, Covington, Chairman of Organization, and Mrs. R. B. Wallace, Alexandria, Councilor for the Eighth District, report two new groups.

AVOYELLES PARISH

A Woman's Auxiliary to the Avoyelles Parish Medical Society was organized in Marksville, December 17, when a meeting was held at the home of Mrs. W. F. Couvillion, with Mrs. L. W. Holloman acting as chairman. Election of officers resulted as follows: Mrs. Kirby A. Roy, Mansura, president; Mrs. W. F. Couvillion, Marksville, president-elect; Mrs. L. W. Holloman, Marksville, secretary; Mrs. A. B. Cairns, Bunkie, treasurer. The auxiliary will meet in January at the home of Mrs. Roy at Mansura when various committees will be named and plans for the ensuing year's activities will be discussed.

ST. LANDRY PARISH

Organization of the Woman's Auxiliary to the St. Landry Parish Medical Society was perfected at a meeting in Opelousas, January 11, under the direction of Mrs. Roy Carl Young of Covington. Mrs. F. Creighton Shute of Opelousas was elected president. Other officers elected were: Mrs. Charles Lewis, Eunice, vice-president; Mrs. Gerald Bertinot, Sunset, recording secretary; Mrs. L. Lazaro, Jr., Opelousas, treasurer; Mrs. William C. Littell, Opelousas, corresponding secretary; and Mrs. Albert Pavy, Opelousas, parliamentarian.

Mrs. Young outlined the aims and objects of the auxiliary. The local unit was organized with the consent of the medical society and a member of the latter organization will be appointed to serve as counsel to the auxiliary.

The following committee was appointed to draw up a constitution and by-laws for presentation at the next meeting: Mesdames Oscar Bienvenu, Albert Pavy, Harry Jenkins, George Beridon and George Azar.

Those present at the organization meeting were Mesdames Lionel Bienvenu, Oscar Bienvenu, Franklin Boyd, William Littell, Sylvan Beer Wolff, S. J. Rozas, L. Lazaro, Jr., F. Creighton Shute, L. Lazaro, Sr., Albert Pavy, R. M. Littell and B. A. Littell, Opelousas; Charles Lewis, Rodney Reed, Harry Jenkins and J. J. Stagg, Eunice; George Azar, Washington; Halile Hawkins, Palmetto; A. L. Brinkhaus, Gerald Bertinot and J. L. Prejean, Sunset.

JEFFERSON DAVIS PARISH

The January meeting of the Woman's Auxiliary to the Jefferson Davis Parish Medical Society was held at the home of Mrs. F. W. Harrell.

The 1938 Christmas Tuberculosis Seals were sold by the auxiliary and the result of the sale was reported to be $227.70.

Mrs. L. E. Shirley, in charge of the program, read a splendid article on "Cancer Control" and also a humorous reading; another interesting paper on "Cancer" was given by Mrs. E. V. LaCour.

Mrs. John M. Whitney,
Press and Publicity Chairman.

ORLEANS PARISH

Mrs. C. Grenes Cole was installed as president for 1939 and Mrs. Aynaud F. Hebert elected to the presidency of the Woman's Auxiliary of the Orleans Parish Medical Society for 1940 at its annual meeting. Mrs. Jules M. Davidson was retiring president.

As its inaugural project for the year, the group voted to undertake the establishment of a fund for the care of indigent widows of physicians. The former commemoration fund was earmarked for this new purpose as was one dollar from the annual dues of each member. One widow of a New Orleans' physician, former member of the Orleans Parish Medical Society, has already applied for aid, been investigated by the committee in charge and is presently receiving a monthly check from the fund as provided. The work of caring for indigent widows of physicians has been outlined by the auxiliary to the American Medical Association, and it is due to the zeal and interest of retiring president, Mrs. Jules Myron Davidson, that the work has been put into operation so quickly and efficiently. Mrs. Davidson has been appointed chairman of the fund for the present year.

Other officers named were Mrs. Roy B. Harrison, first vice-president; Mrs. Cassius L. Peacock, second vice-president; Mrs. Jonas Rosenthal, third vice-president; Mrs. John T. Sanders, fourth vice-president; Mrs. Carroll F. Gelbke, recording secretary; Mrs. Paul G. Lacroix, treasurer; Mrs. William Kohlman, corresponding secretary; Mrs. James W. Warren, parliamentarian; Mrs. Michael E. De Bakey, historian; and Mrs. Edwin R. Guidry, publicity chairman.

The following committee chairmen were appointed by Mrs. Cole: Program, Mrs. Roy B. Harrison; hostesses, Mrs. Joseph A. La Nasa; membership, Mrs. Aynaud F. Hebet; registration, Mrs. Jonas Rosenthal; notification, Mrs. Adoph Jacobs; telephone, Mrs. Edwin A. Socola; courtesy, Mrs. George Taquino; motor corps, Mrs. Cassius L. Peacock; revision, Mrs. Roy B. Harrison; periodic health, Mrs. Herman B. Gessner; tuberculosis prevention, Mrs. H. Theodore Simon; Red Cross, Mrs. Frank J. Chalaron; social hygiene, Mrs. George D. Feldner; safety, Mrs. S. M. Blackshear; clothes, Mrs. Leon J. Menville; samples, Mrs. Joseph E. Brierre; ways and means, Mrs. W. Rogers Brewster; public relations, Mrs. S. Chaille Jamison; contact, Mrs. J. Kelly Stone, and commemoration, Mrs. Jules M. Davidson.

Mrs. Edwin R. Guidry,
Press and Publicity Chairman.

OUACHITA PARISH

Camellias of pronounced beauty overflowing from a flaring crystal bowl, formed the central decor for the luncheon table at the Lotus club on Wednesday when members of the Auxiliary to the Ouachita Parish Medical Society enjoyed their regular January social meeting.

Mrs. A. L. Peters, Mrs. Scott Hamilton and Mrs. Henson Coon, extended the courtesies at this time.

Two excellent papers, "Women In Science and Medicine," by Mrs. C. P. Gray and "The Truth about Candy," by Mrs. R. W. O'Donnell, featured the program hour.

It was announced at this time that two books, "Short History of Medicine," by Charles Singer, and "Evolution of Medicine," by Sir William Osler, had been purchased and presented to the Monroe Public library in memory of the late Mrs. Jessie Sadler, an outstanding member of the auxiliary whose husband, the late Dr. Richard Sadler, was a prominent member of the medical profession of Monroe.

As customary each year at Christmas time, members of the Auxiliary to the Ouachita Parish Medical Society entertained their husbands on a lavish scale at the Lotus club.

Mrs. R. W. O'Donnell,
Press and Publicity Chairman.

JOINT MEETING

The Woman's Auxiliary of Washington and St. Tammany parishes united in a social meeting to celebrate their first anniversary. Mrs. Roy Carl Young entertained the two groups at tea in her home in Covington. The meeting fostered the fellowship and goodwill that prevails in those neighboring parishes.

Respectfully submitted,
Mrs. Robert T. Lucas,
Press and Publicity Chairman.

BOOK REVIEWS

A Biological Approach to the Problem of Abnormal Behavior: By Milton Harrington, M. D. Lancaster, Pa., Science Press Printing Co., 1938. Pp. 459. Price $4.00.

The writer attempts to emphasize mechanistic theories as a basis for understanding the function of the human mind. The introductory chapters are interesting for their viewpoint; not only Freudian psychology, but even the practicality and inherent value of Meyerian teachings are questioned.

This first volume, of a proposed two volume work, is divided into chapters dealing with psychophysiology, and psychopathology. The development of his thesis rests on the work done on simple stimulus responses, simple and elaborated reflex action. He emphasizes the concept of anticipation in the role of attaining a goal. In the chapters on physiology, he deals with physiologic mechanisms, and attempts to show how pathologic changes occur when the former are disturbed. He looks upon the personality as a machine, and mental disturbances as due to some flaw of the machine. He points out five methods of making an adjustment and his psychopathology is in the disturbance of one or more of these.

The author emphasizes the mechanistic concept of behavior, while himself realizing that as yet it has not entirely satisfied our needs for understanding or treating mental disorders.

L. A. Golden, M. D.

Big Fleas Have Little Fleas, or Who's Who among the Protozoa: By Robert Hegner. Baltimore, The Williams and Wilkins Co., 1938. Pp. 285, illus. Price $3.00.

In this volume by Professor Hegner, who has here set down in the printed pages the subject matter of his Messenger Lectures at Cornell University, 1937, an attempt is made to popularize the microscopic group of organisms technically known as the Protozoa. Hence the caption "Big fleas have little fleas" (an entomological text) may, with a big stretch of writer's license, be used to catch the popular reader's ear and eye.

The book contains three types of subject matter: (1) light, fluffy nothings, which could well become popular at pink teas; (2) scientific facts, and (3) travel stories based on Professor Hegner's tropical journeys. The three are inextricably entangled, perhaps with the hoped-for goal of acquainting the unsuspecting fiction reader with an important and entrancing field of microscopic science after he had dipped ever so lightly into the opera bouffe. It is probably not overstating the case to add that the illustrations are better than the text. Most of the strictly scientific line and halftone pictures are those which have appeared in earlier research contributions by the author. On the other hand, the cartoons and fragments of comic strips, which appear abundantly throughout the volume, are both a delight and a real contribution to the popularization of a scientific, and frequently bone-dry, subject. The real value of this book lies in these "warpings of the imagination" to bring home numerous facts by way of illustration. A few of these which particularly pleased the reviewer are the following:

"To the biologist only the protozoa are immortal, but who wants to be immortal if he loses thereby his identity?" (p. 20, fig. 12).

"The birth of quintuplets would represent abysmal failure in the suctorial family." (p. 63, fig. 32).

"Millions of ciliates are digested, absorbed and assimilated by cattle daily so that we may have well-flavored steaks to eat." (p. 76, fig. 38).

"Fortunately for young love, the protozoa that live in the human mouth are harmless." (p. 121, fig. 61).

"A phagocyte traffic cop captures a malaria parasite trying to steal a ride in a red blood corpuscle." (p. 218, fig. 108).

By way of serious criticism, Professor Hegner should have known better than to confuse "hereditary" with "congenital," when discussing transmission of micro-organisms (p. 71). Likewise, his diagram on page 119, referring Plasmodium vivax primarily to the brain, Leishmania donovani to the liver and Endamoeba histolytica to the transverse colon, needs revising.

By and large, this book should relieve, rather than initiate headaches.

Ernest Carroll Faust, Ph. D.

A Guide to Human Parasitology for Medical Practitioners: By D. B. Blacklock, M. D. (Edin.), D. P. H. (London), D. T. M. (Liver.), and T. Southwell, D. Sc., Ph. D., A. R. C. Sc., F. Z. S., F. R. S. E. Baltimore, William Wood and Co., 1938. Pp. 259, 2 colored plates. Price $4.00.

This book was originally designed as an introduction to medical parasitology for the practicing physician and the appearance of the third edition within seven years indicates that it has met a demand.

After a brief, introductory chapter, in which the physician is informed that "any person can attain a very considerable degree of proficiency in the diagnosis of parasites, without having to wait for infected patients to present themselves for examination," the authors present, in turn, information on the microscope and its use, the filming and preparation of blood and its examination for parasitic organisms, the interpretations of abnormal blood cells and serum with respect to parasites, and the examination of feces for Protozoa. Then the term "parasitology" is defined and the significance of zoological nomenclature is briefly pointed out. The groups of parasites considered are the spirochetes, the amebae, the flagellates of the bowel and of the hematopoietic system, the Sporozoa (including the malaria plasmodia), Balantidium coli, the tapeworms, flukes, the several important roundworms, and the phenomena of myiasis.

There are numerous, well-executed illustrations, tables and charts on the morphology, life cycles, geographic distribution, the stages of the parasite infective for man and the vehicles of human infection, the tissues of man parasitized by the parasites, and diagnostic tables for their recognition. There is no information concerning symptomatology or treatment. A brief list of reference books for consultation and a good subject index conclude the volume. The information presented is relatively free of personal prejudice. The book is beautifully printed and is attractively bound.

Ernest Carroll Faust, Ph. D.

A Historical Chronology of Tuberculosis: By Richard M. Burke, M. D. Springfield, Ill., Charles C. Thomas, 1938. Pp. 84. Price $1.50.

This small volume presents in outline form the story of tuberculosis from the time of first recorded history to the present day. Not intended for casual reading, it offers an excellent beginning for anyone interested in tracing the evolution of various phases in man's long struggle against his ancient enemy. An appended graphic outline of the development of knowledge of tuberculosis makes an invaluable addition to the text.

Sydney Jacobs, M. D.

Cancer, with Special Reference to Cancer of the Breast: By R. J. Behan, M. D., Dr. Med. (Berlin), F. A. C. S. St. Louis, C. V. Mosby Co., 1938. Pp. 844. Price $10.00.

"Cancer" by Behan is an almost encyclopedic compilation of the literature on carcinoma of the breast, for a complete understanding of which the author thought it necessary to add considerable data on the experimental production and reaction of neoplastic tissue in the laboratory.

Behan attaches more etiologic significance to heredity than the majority of workers in this field do at the present time, going so far as to caution against the marriage of two individuals with a family history of malignant disease.

Although B. J. Lee found fifty per cent of the patients with a "bleeding nipple" showed malignant changes in the breast, Behan suggests that some of these patients may be treated expectantly. Again, many clinicians feel that supraclavicular dissection in radical mammectomy is futile, because, in the great majority of instances, if metastasis from carcinoma of the breast is found in the supraclavicular area, the disease has already spread to regions inaccessible to surgery. For the same reason, most clinicians are not in agreement with the use of radon seeds in the periphery of the operative field at the time of radical mastectomy as advocated by Behan.

The dosage of radiation in carcinoma of the breast used by Behan is lower than that used in some large clinics (notably the Memorial Hospital in New York City) and his lack of enthusiasm for preoperative radiation of carcinoma of the breast fails to take into consideration the fact that there are certain groups of patients in whom it is definitely beneficial, i. e., where the neoplasm is so large that radical removal may be technically difficult or impossible, intensive preoperative irradiation will shrink the tumor and its axillary extension to the point where its removal is technically much less difficult; again, in women below 40 years of age radiation castration increases both the life expectancy of every patient as well as her chance for a five year cure; in the same way, in patients with grade III or IV tumors, preoperative radiation seems to be advantageous to the patient. Preoperative irradiation undoubtedly increases the loss of blood as well as the technical difficulty of the operative removal.

Behan wisely points out the noxious effect of lactation or subsequent pregnancy in a patient with carcinoma of the breast. His emphasis upon the treatment of the patient as a whole with specific measures to correct any anemia, cachexia, or psychologic trauma which may be present as well as the carcinoma of the breast is undoubtedly wise. The book will be of value to the physician particularly interested in carcinoma of the breast.

David Woolfolk Barrow, M. D.

Dr. Betterman's Diary for the Years 1863, 1873, 1893, 1909, 1910: Edited by Charles Elton Blanchard, M. D. Youngstown, Ohio, Medical Success Press, 1937. Pp. 278. Price $3.00.

This is an interesting and entertaining series of entries by a shrewd, kindly, humorous and resourceful country practitioner of the old school, which is well worth perusing in one's spare hours. There are several references to the Civil War period which are of interest. Human nature and the basic problems of medical practice have changed but little since they were so keenly observed and commented upon in the quaint, amusing and interesting style of Dr. Betterman.

B. B. Weinstein, M. D.

The Pneumonias: By H. A. Reimann, M. D. Philadelphia, W. B. Saunders Co., 1938. Pp. 381, with 111 illus. Price $5.50.

The author has brought together much diversified knowledge pertaining to pneumonia. This volume is a critical review of the pertinent literature on the subject as well as a splendid teaching text based on personal experience.

In a short preamble before the main text, the author gives a brief outline of the history of pneumonia and a comprehensive classification. He has found difficulty in preparing a classification of pneumonia which will satisfy clinicians, bacteriologists, pathologists and epidemiologists. Emphasis is given to the relative unimportance of a purely anatomic or clinical classification. The author feels that it is of no great moment whether the pneumonia assumes the clinical lobar form or not, except that the prognosis is better if the lesion is localized, but of great importance to know whether the pneumonia is caused, for example, by Type I pneumococcus, or by hemolytic streptococcus, for in both instances specific therapy is necessary, regardless of the anatomic or clinical form the pulmonary infection assumes. His firm belief is that it is desirable to adopt a method of etiologic classification rather than one based on clinical or anatomic considerations, if progress is to be made in prevention and treatment.

The first section of Part I deals with typical, or lobar, pneumococcus pneumonia. Each aspect of the disease is treated in a thorough discussion, the chapters dealing with pathology, symptomatology and pathogenesis being the best. The problem of serum therapy is thoroughly discussed. Regarding the use of drugs, the author feels that sulfanilamide is not to be advised at present. He expresses the hope that in the future some sulfamide compound will be perfected which will be more toxic for the pneumococcus and less so for the patient.

In the second section there is a discussion of atypical pneumonias, that is to say, those pneumonias which differ clinically from lobar pneumonia. They are divided according to etiology. They are regarded as primary pneumonias and differ from those discussed in Section 1 only in their clinical and pathologic aspects.

Part II is concerned with pneumonia as a specific form, occurring as a part of a systemic disease. The infecting agent for both the primary disease and the pneumonitis is the same. Here again the discussion is divided by etiologic considerations.

In Part III the author discusses those forms of pneumonia secondary to acute and chronic disease, mechanical causes, shock, senility and like factors. In this group the exact bacteriologic-etiologic diagnosis by available methods is impossible.

A few special forms of pneumonia, not caused by infectious agents, but characteristic according to their etiologies, are listed in Part IV.

The material in this volume is presented in a usable form and concise manner. The bibliography is a valuable aid in collateral reading. It is a book which may be profitably read by both general practitioner and internist.

Donald F. Gowe, M. D.

Human Pathology: By Howard T. Karsner, M. D., with an introduction by Simon Flexner, M. D. Philadelphia, J. B. Lippincott Co., 1938. Pp. 1013. Price $10.00.

This is the fifth edition of a book which has been popular with the Sophomore medical students. All chapters of the book have been revised with several new illustrations replacing the older pictures. Over two hundred new references have been added and older references omitted. The text well covers the essentials of general pathology and will undoubtedly continue to be popular with the medical students.

JOSEPH R. KRIZ, M. D.

Urology: By Daniel N. Eisendrath, M. D., and Harry C. Rolnick, M. D. Philadelphia, J. B. Lippincott Co., 1938. Pp. 1061. Price $10.00.

This book is more suited to the practitioner than to the medical student. The subject matter is presented in too much detail for student use.

The divisions of the book are not well connected, necessitating constant reference to other sections of the volume, and the chapter on external lesions should be revised; otherwise the book is well written. The section on physiology is commendable, presenting the new advancements which have taken place within the past few years. The popularity of the volume is attested by the fact that it has reached its fourth edition.

FRANK L. RAMSAY, M. D.

Aids to Bacteriology: By William Partridge, F. I. C. Baltimore, William Wood & Co., 1938. Pp. 300. Price $1.50.

This small volume has now come into its sixth edition revised by H. Scott Wilson. The classification of the Society of American Bacteriologists in a slightly modified form is now used. The book should be valuable to students as an aid in bacteriology.

JOSEPH ZISKIND, M. D.

Pathological Technique: By Frank Burr Mallory, A. M., M. D., S. D. Philadelphia, W. B. Saunders Co., 1938. Pp. 434. Price $4.50.

Dr. Mallory has written a modern presentation of accepted pathologic technic. He has selected those formulas which were found of value and has intended the book for pathologists, students interested in pathology and technicians trained in that line of work. This volume would be a valuable asset to any pathologic library.

JOSEPH ZISKIND, M. D.

Fractures of the Jaws: By Robert H. Ivy, M. D., D. D. S., F. A. C. S., and Lawrence Curtis, A. B., M. D., D. D. S., F. A. C. S. Philadelphia, Lea & Febiger, 1938. Pp. 192. Price $4.50.

In this compact second edition of "Fractures of the Jaws" the authors offer a wealth of experience accumulated over a period of many years. They have graphically shown how virtually all problems arising from fractures of the facial bones may be treated by simple methods applied to basic principles.

This book is adequately illustrated, and its value is further enhanced by the development of the chapter which is devoted to roentgenologic aspects and intra-oral technic. It further serves to emphasize the importance of proper management in the care of fractures of the bones of the face and to stress some of the unfortunate sequelae arising from mismanagement. The book should be of interest to the general surgeon as well as to the specialist in maxillo-facial surgery. It is a valuable ready reference work.

NEAL OWENS, M. D.

Surgical Pathology: By William Boyd. Philadelphia, W. B. Saunders Co., 1938. Pp. 886. Price $10.00.

This excellent text of surgical pathology has undergone a fourth revision. Many new subjects have been added which are of especial interest such as lymphogranuloma inguinale, Hashimoto's disease, and the rare ovarian tumors.

The book is highly recommended to students and surgeons.

JOSEPH ZISKIND, M. D.

Medicine in the Outpatient Department: By Winthrop Wetherbee, Jr., M. D. New York, Paul B. Hoeber, Inc., 1938. Pp. 111. Price $1.00.

"Medicine in the Outpatient Department" is an excellent, small, introductory handbook that gives splendid, clinical, medical facts connected with diagnosis, prognosis and treatment. It may be read with much profit.

I. L. ROBBINS, M. D.

PUBLICATIONS RECEIVED

Harvest House, New York City: Superfluous Hair and Its Removal by A. F. Niemoeller, A. B., M. A., B. S.

J. B. Lippincott Company, Philadelphia: Trauma and Internal Disease by Frank W. Spicer, A. B., M. D., F. A. C. P.

W. B. Saunders Company, Philadelphia: The Treatment of Fractures by Charles Locke Scudder, A. B., Ph. B., M. D., F. A. C. S.

William Wood and Company, Baltimore: The Abnormal in Obstetrics by Sir Comyns Berkeley, M. A., M. C., M. D. (Cantab.), F. R. C. P. (Lond.), F. R. C. S. (Eng.), M. M. S. A. (Hon.), F. C. O. G., Victor Bonney, M. S., M. D., B. Sc. (Lond.), F. R. C. S. (Eng.), F. R. A. C. S. (Hon.), M. R. C. P. (Lond.), and Douglas MacLeod, M. S., M. B. (Lond.), F. R. C. S. (Eng.), F. R. C. P. (Lond.), M. C. O. G. Midwifery by Ten Teachers, under the direction of Clifford White, M. D., B. S. (Lond.), F. R. C. P. (Lond.), F. R. C. S. (Eng.), F. C. O. G., edited by Sir Comyns Berkeley, Clifford White and Frank Cook. Veterinary Helminthology and Entomology by H. O. Monnig, B. A., Dr. Phil., B. V. Sc.

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SOME OBSERVATIONS ON THE INFLUENCE AND EFFECTS OF TOXEMIAS UPON MENSTRUATION*

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New Orleans

Interference with the normal function of menstruation usually produces a repercussion, the degree and extent of the resultant disturbance depending very largely upon the cause which provokes it as well as upon the intensity and the duration of the interfering factor.

The fact that acute infectious diseases, through their toxins, affect ovarian function adversely thereby producing disturbances in menstruation, is an observation which has been frequently made and is very generally accepted, but it appears that its real significance and potential danger have not been given the consideration diagnostically and therapeutically which they should receive.

My interest in this subject was intensified by several observations; first, the comparative frequency of failures of the menstrual function to return to normal in patients recovered from acute infectious diseases, especially those cases where suppurative processes had supervened; secondly, the menstrual history of such cases suggested that the toxic factor was the disabling influence; thirdly, that the absence of menstruation in some instances from six to eigtheen months was a situation that had had ample time to adjust itself if it were to do so unaided; and finally, inability to secure from the current literature very much information on this subject.

In this summary there is presented for your consideration only those infectious diseases which in my experience have proved to be the most frequent diseases which leave a variable degree of ovarian embarrassment. I have no doubt but that all infectious foci, whether acute or chronic, at some time or other, play a part but I do not feel that most of them are of sufficient importance to be discussed here.

Summing up the influence of toxins upon ovarian function, it may be said that the general effect is unfavorable in many instances and, while it is true that all patients do not show an unfavorable reaction to acute infection, many of them do to a greater or lesser degree, depending on whether the infection in its onset and course is slight, mild or severe. The toxemias which result from acute systemic infections, producing as they do morbid changes throughout the body, are fully capable of destructive effects either upon the hormone in the circulating blood, in the follicle or in the ovarian stroma itself, and, in so doing, produce a disturbance in function which may result in precipitation, prolongation and in some instances total suspension of the phenomenon. From clinical observations, it appears that it is possible for toxins to have a stimulative as well as an inhibitive action, the time at which its influence and effects are felt will depend upon whether it makes its appearance during the follicular or luteal phase of the cycle.

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*Read before the Orleans Parish Medical Society, October 24, 1938.

ACUTE INTESTINAL TOXEMIA

This frequently occurring clinical picture has in my experience been the cause of considerable disturbances in menstruation and if it develops in the premenstrual period and the toxemia is intense, it is capable of complete suppression of the period; likewise, should it develop during the follicular phase of the cycle, it may result in the precipitation of the menstrual flow.

Cases are on record where an acute intestinal toxemia appears to have been the provoking factor in the production of ovarian hemorrhage from premature or forced rupture of the follicle. Apparently, in such instances, the normal enlargement of the ovary is intensified and increased as the result of toxic action. Constipation, a frequent complaint among women, is always aggravated prior to the appearance of the menstrual period and a situation favorable to the development of intestinal toxemia is created. In patients subject to recurrent attacks of this type, drastic prophylactic measures should be instituted as such women invariably require adjunct treatment.

GONORRHEA

In this type of infection, the menstrual disturbances are frequently most profound and irregularity of all types is demonstrable and, when much of the disturbance is ascribable to inflammatory reactions, we should include the unfavorable effects of the associated toxemia among the causative factors. This infection, so destructive to the ovaries, leaves little to be done but hope for the best and expect very little.

ACUTE OTITIS MEDIA AND MASTOIDITIS

In the suppurative stages, infections of this type, owing to their intensity and duration, frequently cause menstrual disturbances. The factors of anesthesia plus the irreducible trauma of surgery tend to accentuate the disturbance and the possibility of menstrual failure should be included in the postoperative check up of such cases.

SYPHILIS

This destructive infection contributes its share to menstrual disorders and usually produces an amenorrhea or oligomenorrhea; unless such patients receive adequate antiluetic treatment, their disablement may become permanent. Attempts at restoration of the normal menstrual function frequently require, besides adequate antiluetic treatment, additional therapeutic measures.

ACUTE APPENDICITIS

My observations are limited to suppurative appendicitis as ordinary cases of appendicitis, lacking as they usually do, the extreme toxic elements, do not affect the ovaries. The gross pathologic changes in the ovary already discussed under acute intestinal toxemias were found in two patients operated on for acute suppurative appendicitis. The rupture of the corpus hemorrhagicum had preceded by a short time the development of acute suppurative appendicitis.

INFLUENZA AND PNEUMONIA

In this category may be included the common cold which fortunately seldom if ever produces any disturbances unless the onset just precedes the menstrual period, in which case the period is delayed or if missed, normally returns at the end of the following cycle.

Following influenza and pneumonia or during the course of these diseases some degree of disturbance is noted and a certain percentage of these cases even though uncomplicated, will require corrective treatment.

TUBERCULOSIS

We have all observed the disturbances in menstruation which usually accompany this disease. The amenorrhea and oligomenorrhea frequently noted are largely the result of the destructive effects of the tuberculotoxin upon the hormone and the follicle; here again the diminution or absence of the menstrual phenomena is in proportion to the intensity of the toxemia and not, as formerly supposed and taught, due to an attempt on nature's part to conserve blood loss in the interest of the patient.

The menstrual history in cases of tuberculosis frequently points to irregularity or diminution of the menstrual period for many months before the true nature of the disease is discovered and total absence of menstruation is often noted in cases of acute pneumonic-phthisis; all these are points of diagnostic interest.

The further observation made is that the reappearance of menstruation parallels the systemic as well as local recovery of the patient. In most cases this favorable change can be accepted as of real prognostic value, so much so that the entire pulmonary picture which points to recovery is accompanied by gradual and progressive restoration of the normal menstrual picture.

CONCLUSIONS

1. Toxemias associated with acute infectious diseases affect menstruation adversely. Such cases as are affected will depend upon the severity as well as the duration of the infectious process.

2. Suppurative infections appear to furnish the greatest percentage of ovarian impairment.

3. Toxins appear to have a stimulative as well as a depressive effect upon the ovaries, depending upon in which phase of the cycle they become active.

4. The harmful effects of toxins may be upon the circulating hormone, the follicle or both.

5. With the possible exception of gonorrheal infection, these disturbances are functional and capable of correction. Not more than one or two months should elapse before instituting treatment.

6. Only such patients as have been subjected to a severe or long standing toxemia may become permanently disabled. These patients should not be left entirely to their own devices or to nature, but should be treated as promptly as possible. In considering therapy let me remind you that the use of ovarian hormones plays only a part in it.

SUMMARY

The purpose of this paper is to report observations and stimulate thought in the hope that others will confirm and add to these findings.

BURNS, AN UNSOLVED PROBLEM*

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When one observes severely burned patients, there are several phenomena which are very striking, the febrile reaction, the asthenia, and the evidence of a toxemia which does not seem to respond in some cases to any type of therapy.

Death follows in an alarming number of cases. One cannot help but be impressed with the high mortality and the seemingly unexplained reasons for the fatality. When an investigation is undertaken, there are several facts which are striking. I might say further, from a careful review of the literature, my observations are similar to others in that there are many problems which remain unsolved. In the series of cases which I have studied, many methods of treatment have been employed both for first aid and subsequent purposive methods. This situation prompts the question, why is there no accepted standard method for the treatment of burns? The answer is not difficult. Even though burns must be one of the oldest known injuries experienced by man, science has as yet not obtained the answer to the cause or causes of the symptom complex which follows these injuries.

A brief review of the literature will satisfy the curious investigator that many and varied methods for treatment and as many explanations have been offered to account for the symptoms.

However before entering into the theories and methods of treatment, it might be well to mention briefly a few facts. From the Vital Statistics of the United States Registration Area, it is observed that there were 6,509 deaths from burns in 1934. This is slightly more than any year during the last decade, the average per year during the decade 1926-36 was 5,903.

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 4, 1938, at New Orleans.

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From 1926-1936, inclusive, there were 2,918 burn cases admitted to Charity Hospital in New Orleans. Of this number, 586 died, or 20 per cent. In the five year period, 1932-1936, inclusive, there were 1,154 cases with 209 deaths, or a mortality of 18.1 per cent.

There are very few surgical conditions which we approach today in which the mortality is so high or where we are confronted with so many problems which are not clear. There is neither a unanimity of opinion as to the etiology of the cause of death, the early and late manifestations of serious burns and, if one is to judge by the lack of uniformity of management, there is anything but a definite routine for the management of these cases. It must be accepted as axiomatic that in order to treat any condition rationally, there must be an understanding of the phenomena which are presented. Without this, treatment remains empirical and optional. Through the ages, various explanations have been offered and treatment instituted. A brief statement of some of the theories and methods of treatment which have been used is all that can be included. Sufficient, however, will be stated to indicate the confusion which still exists.

From Cooper's "Dictionary of Practical Surgery" (1843), I should like to quote the following:

> "Two general methods of treating burns have at all times been followed. One consists in the application of substances which produce a cooling or refrigerant effect; the other in the employment of calefacient or stimulating substances. When burns are produced by gunpowder, and the skin more or less destroyed, cooling emollient applications were formerly thought most effectual, and a liniment composed of equal proportions of lime-water and linseed-oil gained the greatest celebrity. Even at this day, the application is very often employed."

BARON LARREY'S PLAN

> He recommends dressing all deep burns with fine old linen spread with saffron ointment, which, he says, has the quality of diminishing the pain and preventing irritation, by keeping the nervous papillae from coming into contact with the air, or being pressed by the linen and clothes. This ointment is to be continued till suppuration takes place, after which Larrey employs the ointment of styrax for promoting the detachment of the eschars, and checking the extension of the sloughing. As soon as the dead parts have separated, he gradually substitutes dry lint, with strips of linen spread with cerate. When the vessels exceed the level of the edge of the sore, he touches them with the argentum nitratum, and he occasionally applies a weak solution of the oxymuriate of mercury, or of the sulphate of copper.

DR. KENTISH'S PLAN OF DRESSING BURNS WITH RAW COTTON

> "In America, it is asserted that the best application for superficial burns is raw cotton, thinly spread out, or carded, and put directly on the injured part.
>
> "The burnt parts, if vesicated, are to be washed with tepid water, and the fluid evacuated by small punctures. Or, if more deeply scorched, they may be bathed with a spiritous or turpentine lotion. The cotton is then applied, layer after layer, until the whole surface is not only covered, but protected at every point, so that pressure and motion may give no uneasiness.
>
> "According to Dr. Anderson, there appears to be a twofold effect from this kind of treatment. The primary effect arises from the exclusion of the air, and the slowly conducting power of cotton, by which the heat of the part is retained, while a soft and uniformly elastic protection from pressure is afforded.
>
> "The 'exclusion of the air' is the true indication in the treatment of burns."

A continuous stream of investigations and explanations have followed since the work of Baraduc in 1862, who suggested that increased viscosity of blood following severe burns was the responsible factor. Not again till 1927 was this theory seriously advanced.

Underhill at New Haven, Connecticut, made a notable contribution after careful study of twenty patients who were victims of a theater fire. Underhill's conceptions are based on the following observations:

"1. Clinically, severe blood concentration may be encountered when water is refused for prolonged periods as is noted in mental cases.

"2. Individuals exposed to high heat of the desert or boiler rooms often show marked blood concentration.

"3. Concentration of the blood even in moderate degrees results in recognizable symptoms.

"4. The blood becomes an 'inefficient oxygen carrier', resulting in partial asphyxiation of the tissues.

"5. When blood concentration has reached a certain high level, a disturbance of the heat regulating mechanism occurs. The temperature, at first elevated, falls and vital activities are suspended.

"6. In extensive superficial burns concentrated blood may be chiefly responsible for the clinical symptoms evoked.

"7. The composition of the blood when highly concentrated shows various changes such as increased viscosity, and the N.P.N. is generally augmented.

"8. The direct cause of blood concentration in burns is changed permeability of the capillary walls.

"9. When blood concentration reaches 140, danger enters and life is not possible for long if this level is maintained."

Underhill emphasizes these statements in his conception of the treatment as follows: "If by any means blood concentration can be prevented or abolished, the chances of recovery are very materially increased.

"The systematic treatment consists simply in forcing fluids, to keep blood concentration near a normal level, until the blood capillaries in the skin are capable of holding within themselves the fluid of the blood in a normal manner."

In 1868, Wertheim suggested that deaths from burns were due to a circulating toxin. The origin and nature of the toxin have been the source of much controversy.

Avdakoff in 1876 reported that the "blood of a burned animal was toxic to healthy animals."

In 1914, Pfeiffer concluded that the poison was produced at the site of the burn.

Robertson and Boyd arrived at the following conclusions with reference to the factors responsible for toxemia and death in burns:

"1. Death from burning occurring within the first twenty-four hours is practically always due to primary shock; later than this, it is due to toxic shock.

"2. There is a toxin produced in burned tissue, which circulates in the blood and which causes the symptoms seen in bad superficial burns, and in some cases, death.

"3. Extracts of burned skin are toxic.

"4. There is increased protein catabolism in burns as evidenced by the increase in the N.P.N. and urea nitrogen of the blood.

"5. Whole citrated blood from burn cases is toxic. Solutions of the corpuscles properly treated are more toxic than whole blood.

"6. The toxic substance consists of two portions, one of which is thermostabile, diffusable and neurotoxic; the other is thermolabile, colloidal and necrotoxic. Chemically the toxin consists of primary and secondary proteoses."

Wilson and his associates at Edinburgh made an interesting and informative series of experiments on the formation of toxins in burned tissues: "The etiology of acute toxemia has not yet been definitely established. Clinical and pathologic studies strongly suggest that it may be caused by the formation of a toxin or toxins in burned tissues and the absorption of such toxin into the circulation.

"We decided to investigate first the question of toxin formation in burned tissues.

"The experiments were carried out on rabbits. When excessive heat is applied to the skin of a rabbit, there is no blistering, but a considerable quantity of edema fluid accumulates in the subcutaneous tissues.

"At varying intervals after burning, the edema fluid which had accumulated was collected.

"The toxicity of edema fluid was tested by intravenous injection (into an ear vein), by subcutaneous and intraperitoneal injection in unanesthetized rabbits, and by intraperitoneal injection in mice.

"The quantities injected were from 2 to 20 c.c.; 5 to 10 c.c. was an average dose. After a certain period following burning the edema fluid became highly toxic, and the development of toxicity was gradual. At forty-eight hours the fluid was frequently lethal.

"In animals surviving for a few hours or longer, the liver was the organ which sustained particular damage; abnormalities in the kidneys, gastrointestinal tract, brain, heart, lungs, or suprarenals were slight or absent.

"The gradual development of toxicity of edema fluid in the absence of bacterial growth strongly suggested that autolysis of injured tissue was responsible for toxin formation. The possibility that the toxic principles were products of protein cleavage was therefore tested.

"The results showed that the toxic principles were present in both albumin and total globulin fractions, but were probably associated mainly with the globulin fraction."

CONCLUSIONS

"1. Edema fluid which accumulates in a burned area gradually acquires toxic properties.

"2. The development of toxicity is independent of the action of bacteria; there is evidence that autolysis of injured tissue is the responsible mechanism.

"3. A study of the actions of toxic edema fluid suggests the presence of more than one toxic component, and that the proportions of the components vary in different samples.

"4. The effects produced include toxic action on the nervous system, circulatory depression, and degeneration of liver cells.

"5. The toxic principles are associated mainly with the globulin fraction. The evidence at present available indicates that the more active principles are higher protein derivatives."

Many observers have advanced the theory of suprarenal insufficiency as a cause of death in burned patients. This theory is based on changes found at postmortem in severely burned cases.

Massabuau and Ginestie state: "Only three theories are based on sound clinical, biologic and experimental arguments: toxemia, suprarenal insufficiency and abnormal concentration of the blood.

"The three above mentioned theories of death from burns supplement each other. One must admit that toxemia is present in all grave burns; a massive general intoxication may be fatal; in other cases the poisoning may attack chiefly one organ and produce a toxic nephritis with anuria, or a suprarenalitis."

Inouye states: "Intoxication seems to be considered as the main cause of death by the majority of writers at the present time. The author performed autopsies on three burn cases; changes in the suprarenal glands were observed. The author shares the opinion of Niemeyer and others that the changes in the suprarenal glands after burns are the direct result of poisoning with abnormal products of decomposition of proteins; similar marked changes also occur after burns in other organs, especially in the kidneys and liver. In agreement with Takeuchi, the author believes that the suprarenal lesions following burns represent nothing else but a sign of a general poisoning with products of decomposition of proteins; under no circumstances can such changes be considered as a direct cause of death from burns."

G. Riehl states: "The problem of the pathogenesis of death due to burns has been a subject of study for a number of generations. It is generally assumed at present that we have to deal here with an auto-intoxication of the body conditioned by the toxins resulting from the burned tissue.

"In severe burns we have to deal with an intoxication produced by absorption of substances formed in the region of the burned skin, substances which are directly or indirectly responsible for the symptoms. In the cases where life is maintained for a considerable length of time following the burn, there occur changes in the circulatory apparatus which are expressed in an injury to the blood capillaries, as a result of which there occurs a loss of plasma and an increase in the viscosity of the blood. Some of the symptoms are also conditioned by an injury to the organs, especially an injury to suprarenals, chiefly its cortex. The causes of the symptoms observed in association with burns are therefore represented by numerous complex factors. The problem still remains unclear."

Peyton Barnes in 1933, presented a splendid thesis based on 205 cases observed during a period of thirteen years, 1920-1932. There were forty deaths, or a mortality of 19.5 per cent. These deaths occurred in two periods, those during the first twenty-four hours and those which occurred in from one to three weeks. It is particularly the second group which is of importance if we are to improve our results, and it is the pathology of this group which we must appreciate if we are to treat them rationally and not empirically. The manifestations noted by Barnes are similar to those which we have noted. "The temperature is usually above 100°F and the pulse is rapid. After ten days or so and for no apparent reason, diarrhea, anuria or some other untoward symptom develops. The patients become irrational and delirious and go into a state of profound shock and die with dramatic suddenness." He concludes that "the theory of toxin formation provides a firmer foundation on which to rest the weight of our clinical impressions." He based his attitude on the fact "that it seems to have been conclusively proved that traumatized tissues may serve as a source of toxin formation," and the application of the principle of "removal of this traumatized tissue has proved efficacious in the relief or prevention of shock."

All forms of treatment from protective ointments used by the ancients to present day adaptation of the principle by the use of ambrine, open air treatment, continuous immersion and debridement, have been advocated. A brief summary of these methods will be sufficient warrant for the lack of uniformity in the handling of burns at the present time.

The modern revival of the occlusive type of dressing for burns was due to the work of Barthe de Sandfordt working in China in 1902, when he made use of his paraffin wax. The method was popularized in America through William O'Neill Sherman. Sherman claimed for the ambrine treatment, "relief from pain, maintenance of a constant temperature, a protective dressing to the proliferating tissues and the healing without apparent contracting cicatrices and without causing functional disabilities."

In 1887, W. P. Copeland of Eufaula, Alabama, advocated the open air treatment for burns, that is, no dressings, "mosquito netting to keep off flies. I would summarize by saying that the method, too often adopted, of daily washing off burns or open wounds with water, and removing the secretions only breaks up the delicate adhesions that have taken place since the last dressing, and keeps up the irritation by pulling off and washing away the very substance with which nature is trying to repair the injury." (Copeland)

According to Sneve, Archdall Reid, in 1899, described a modification of Copeland's method and in 1905, Sneve of St. Paul revived the method. He said: "Observation of a considerable number of burns has shown me that the burns of the face when left exposed to the air speedily crusted over and healed rapidly underneath nature's own dressing, while burns of no greater depth or area on the trunk or limbs treated simultaneously with occlusive dressings, dragged along interminably.

"The moisture from the perspiration and the exudation from the wound being retained, every dressing speedily became a wet poultice, and it was a logical step to assume that the toxemia resulting in emaciation, fever, and nephritis was due mainly to absorption from the wounds. Death being apparently a matter of a short time to the patient, we removed the occlusive dressings and exposed his wounds to the air.

"Sixty-three patients were treated at the City and County hospitals from January 1, 1903, to January 1, 1905, according to the open air method, with fourteen deaths, nine of which occurred in children. The fact that pain only lasted a short time, that nothing further than keeping the wounds clean was required, that stiffness in nearby joints from disease did not develop, and that the time required for healing was shortened about two-thirds as compared with our usual method, make the results noteworthy."

Thomas J. Tuder in 1915 stated: "An open air treatment of burns, which is becoming more and more popular year by year, will doubtless be the method of the future."

The treatment of burns received a distinct impetus as a result of the epoch making studies of the late Edward C. Davidson of Detroit. His work was so significant that it is well to quote him extensively: "There is certain convincing evidence that suggests the formation at the site of the burn of a toxic substance, the absorption of which is responsible for the constitutional reaction.

"The clincial course which follows extensive superficial burns cannot be attributed to interference with any of the functions of the skin, nor can it be ascribed to the known changes of the blood.

"Of the various theories presented therefore, that which attributes the constitutional reaction to absorption of some toxic substance or substances from the burned area is most strongly supported by the available evidence.

"The clinical and experimental facts suggest that the rational manner of combating the toxemia would then lie in some form of local treatment, which would prevent the absorption of autolytic products of protein decomposition. This might be accomplished (1) by arresting the autolytic process; (2) by removing the products of decomposition mechanically or by baths; (3) by slowing the process of absorption by the use of vasoconstrictor drugs; and (4) by causing a local coagulation of all devitalized tissue.

"The fourth possible means of limiting absorption of the toxic material by coagulation or precipitation of the injured protein was suggested to the writer by the observation of Pfeiffer that the toxic extract from burned tissue is precipitated in vitro by bichloride of mercury in acid solution or by phosphotungstic acid. In view of the fact that there is a large absorbing surface, this treatment is not without danger.

"While investigating the possibility of using phosphotungstic acid as a coagulant, the writer was advised by E. C. Mason of the similarity of tannic acid and phosphotungstic acid in regard to the property of precipitating protein. Tannic acid precipitates proteins, alkaloids, some glucosides and the salts of the heavy metals. It forms a more or less stable compound with the protein constituents of the body fluids and cells.

"When applied to a burned surface in dilute solution, further penetration into the deeper lying protoplasm is apparently prevented by this action and the true astringent effect appears to be limited exclusively to the most superficial layers of tissue. The precipitated proteins in the surface treated provide a protective coating against chemical, bacterial, and mechanical action as well as against sensory and inflammatory irritation.

"From the foregoing consideration of the properties of tannic acid, it is evident that it might be efficacious in precipitating the poisonous materials in burned tissue and thereby in preventing their absorption."

This is a preliminary report. The statistical studies have not been completed. Therefore, the summary of my data is subject to correction as the work progresses.

There are certain obvious facts:

1. Of all patients who died as a direct result of burns, more than 90 per cent died within 30 days.

2. About 35 per cent died within the first twenty-four hours.

The deaths which occur within the first twenty-four hours are usually those patients in whom the burned area involves a large part of the body surface. Even in this group, a marked febrile reaction occurs in about 30 per cent of the cases. Primary shock is recorded as having been present in more than two-thirds of this group. Many of these patients are recorded to have been either "delirious, unconscious or irrational," before death.

Approximately 55 per cent to 60 per cent of the cases fall into the group dying between the second and the thirtieth day. The outstanding facts noted so far by study of this group are:

1. Persistent febrile reaction is noted which at times reaches 105° to 106°.

2. There is a marked frequency of pulmonary complications.

3. The blood chemistry findings have not shown a constantly high N.P.N., although in one case it is recorded as having reached 200 or more. The urinary findings do not regularly show blood and albumin. The records indicate, however, that many of the patients had evidence of an acute nephritis. In a few cases, Curling's ulcer was noted.

Clinically, along with the febrile reaction, there is evidence of a marked asthenia, and dehydration in spite of efforts to supply fluids. The records indicate that many of the patients had a marked toxemia. In many of these patients there was a lack of mental clarity.

There are no data presented which are contradictory to the toxemia theory as the cause of death in burns. After reviewing the literature and reviewing the records and my own personal observations, it seems fair to conclude that: (1) burns produce a toxic substance in the burned tissues; (2) that this toxic material is absorbed and the effect of these toxic substances is evidenced by the production of organic changes in the liver, the adrenals, lungs, and even the blood vessels themselves.

Dehydration results in extensive burns. This fact is responsible for the definite diminished blood volume and the diminished oxygen carrying power of the red blood cells.

There is nothing incompatible in the three main theories of the cause of death from burns, in fact, each one is complementary to the other. Our problem, as clinicians, is to heed the lessons of these theories.

At the present time it is safe to say that there are certain indications in the management of burns.

1. Prevention of further shock.
2. Relief of pain.
3. Raise blood vascular volume.
4. Prevent absorption of toxins.
5. Avoid development of secondary contractures.
6. Future efforts should be made to determine, when occasion arises, the biochemical changes by adequate studies of blood concentration, liver function, kidney function, suprarenal function.
7. Every effort should be made to utilize the vast amount of pathologic material from postmortems so that comparative data from various centers will be usable for purposes of definite statements with reference to exact pathologic findings in burned cases.

In studying any subject one should fix a goal toward which he will strive. Such a goal in the study of burns will entail an elaborate biochemical series of investigations and an associated group of workers who would be able in emergencies to carry on the program. An outline of such an "ideal" investigation for scientific data is here submitted and the reasons submitted for each step which seems to need explanation. The obvious need for certain parts of the outline will not be remarked. The following chart, I believe, contains data which might be useful for such a study.

BURNS

1. Name Address
2. Age Sex Race S. M. W.
3. Admitted Readmitted Discharged
4. Hospital no. of record.
5. Result. Improved Died
6. Location of burns.
7. Degree of burns.
8. Extent of burns.
9. Description of lesions.
10. Cause of burns.
11. Symptoms
    - Primary shock.
    - Secondary shock.
12. Blood Pressure Readings
13. Laboratory Data
    a. Leukocyte count.
       Red count.
       Differential.
       Hemoglobin.
       Blood volume determination.
    b. Liver function test.
    c. Blood chemistry.
       Uric acid.
       N. P. N.
    d. Urinary findings.
    e. Cultures and smears from wound.
14. Febrile reaction.
15. Character of graphic chart.
16. Mental symptoms.
17. Emaciation.

18. Appetite.
19. Treatment.
    a. Primary or emergency.
       Secondary.
    b. Infusions.
    c. Transfusions.
20. Complications.
    Infections.
    Pulmonary complications
    Cerebral.
    Gastrointestinal.
21. Mortality.
22. Morbidity.
23. Need for secondary plastic operation.
    Type of skin graft used and stage of the disease resorted to.
24. End results.
    Freedom of motion of joints.
    Contractures.
    Deformities.

In reality only the laboratory data mentioned need any comment. Since some observers have laid so much stress on diminished blood volume, increased hemoglobin content, and organic changes in the liver and adrenals, it would be of value to estimate as nearly as possible, the available biochemical data in burn cases so that positive assertions either in agreement with other theoretical conclusions or results that are not in accord may be presented. In that way, scientific conclusions will eventually be arrived at. In the future, I hope to make a further report.

SUMMARY

1. The alarming death rate from extensive burns has been noted and an attempt has been made to correlate the facts as I have studied them with the various theories given for the cause of death in burns.

2. The most logical of all theories seems to be that of toxemia, the result of circulation of toxins produced at the site of the burn.

3. Primary shock has been noted in two-thirds of the patients dying within the first twenty-four hours.

4. A persistent febrile reaction has been noted in a large proportion of patients dying between the second and thirtieth day. About 90 per cent of all patients who die from burns die within the first thirty days. About 35 per cent die within the first twenty-four hours.

5. A discussion of the methods of treatment has been entered into.

6. Every effort should be made to have available reports on burns so that records from one medical center will be comparable with those from another. An outline for the investigation of available scientific data in cases of extensive burns is submitted.

A further report will be made later as my study on the subject progresses.

I wish to express my sincere appreciation to Mrs. Greenwald, in charge of the Record Room, Charity Hospital, for her kind and generous cooperation. I wish further to express my appreciation to Dr. Karlin and to Dr. Penick for their assistance in studying the statistics and to Miss Giselda Napolitano for her willing cooperation in the preparation of this paper.

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DISCUSSION

Dr. R. M. Penick (New Orleans): As Dr. Cohn indicated, there has been a tremendous amount of contradictory work on this subject. For example, many investigators have been able to find a toxin in the burned tissue and in the blood, while an equal number have been unable to find such a toxin or to demonstrate it in any way. One investigator has even produced an antitoxin against this very elusive toxin about which there is no definite and uniform information.

All this confusion makes me feel that there should be a very definite attitude on the part of the clinician towards the treatment of these burned cases. My own attitude is this: I feel that we have demonstrated a great many of the pathologic changes that occur in the burned patient, and I feel that our methods of treatment should be formulated on this basis: We should treat these pathologic processes which we have proved to be present in the burned patient. Of these pathologic processes, the first is, of course, shock. This phenomenon occurs in a large percentage of the patients who have very extensive burns. Another one of these processes that soon occurs is blood concentration, which was first pointed out by Underhill. This occurs within the first twenty-four hours; in fact, by the end of the first twenty-four hours is well established. Very soon, also, blood chemistry changes occur; a great many of these are dependent upon the blood concentration, but there are others which are very important that do not seem to be dependent on this, for instance, reduction of chlorides in the tissues. It is also true that in burns infection usually becomes very well established at the end of eighteen hours. So you see in the first twenty-four hours several processes take place at the same time and give a very complicated picture, in fact one in which it is often difficult to evaluate the component causes.

The burned patient who goes along a little while longer then develops secondary anemia, and this, about the third week, has a tendency to precipitate various types of complications, like deep infections, nephritis, and sometimes septicemia. Therefore, I believe that in a well treated series of cases of burns, over 85 per cent of the deaths will occur within the first thirty-six hours. Then there will be few deaths for a number of days, in fact for almost three weeks, and then we will begin to get a few deaths from complications.

My attitude has been to treat these pathologic processes as they occur, and if this is done properly we have done justice to the patient. However, adequate treatment means enough morphine to control pain; enough fluids actually to correct the blood concentration; enough sodium chloride to make good the body's loss; and proper therapy effectually to prevent infection and anemia. Too often therapeutic measures are not vigorous enough to correct the conditions at which they are aimed.

In regard to local treatments, there is one principle which is too often neglected. I refer to the fact that the lesion is regarded and treated too long as a burn, and not as a wound. As soon as the patient's life has been saved and the dangerous first forty-eight hours have passed, in most instances the general condition is improved; from then on the burned area should be regarded as an extensive superficial wound. Efforts to obtain wound healing should be instituted as soon as possible; certainly no case should be allowed to go unhealed more than thirty days without skin grafting. Instead, in small burns, where life is not endangered, the burn should be treated as a wound from the beginning and grafting can be done the day following the injury. Such very early grafting is particularly applicable to burns of the face and hands where the cosmetic and functional result is of importance.

Of course, there are many unsolved problems in our knowledge of burns but the clinician must have a rationale of treatment. My attitude is to treat adequately those abnormalities which are known to exist.

Dr. David I. Hirsch (Monroe): Living as I do in a locality where there are large gas fields, my experience with burns has been extensive. A few months ago I had the pleasure of spending a day or two with Dr. Willis Campbell, at Memphis, and while there met Dr. Balhlus, from Vienna. He stated that burns were the most unsatisfactory things they had to handle, but our results have been very satisfactory and are due to a method originated by Dr. McHenry of Monroe. Of course, there must be supportive treatment. One of the salient features of burns is the relief of pain. The pros and cons of local treatment are so numerous I will not discuss them except to mention the treatment we use. The results have been good and I hope Dr. Cohn will try the method. We have used ½ to 1 per cent of mercurochrome powder and zinc oxide ointment, with a little vaseline sufficient to soften the ointment. Whether it prevents the absorption and formation of toxins from the decomposition of the destroyed tissue, we do not know; we do know that the results have been remarkable. Contractures and scar formations are less. I recall a series of nine cases of extensive burns in which the results were very gratifying. Of course we have deaths the same as anyone else; we do not cure all. But we think the results from our treatment have been sufficient to warrant the message at this particular time. I think all credit should be given to Dr. McHenry.

Dr. P. B. Salatich (New Orleans): I do not know anything more distressing to treat than an extensive burn. The picture that comes to mind is first the disfigurement, especially if this patient has extensive burns of the face and chest. We know that death will depend on the extent and location of the burn. A very deep burn on a localized area, on the leg for instance, will give better results than a superficial burn over the entire body. Surgeons fear gangrene, especially about the appendix. If you have a gangrenous process involving the cecum, you know when this gangrenous material begins to be absorbed that the fatality is astounding. I have seen them die in six hours. What happens in burns is that there are a lot of gangrenous areas, which may be superficial or may not, and the toxicity depends on the toxin produced by the gangrenous tissue. So far as extensive burns are concerned, I doubt whether we will ever be able to find something that will help the mortality.

As to treatment, I have tried water treatment. It goes back thirty-five years to Charity Hospital when I was an intern; we tried giving the patients baths in saline and tried all forms of moist treatment. I have one way of treating burns and that is ambrine. I have had patients deeply burned, to the third degree and especially around the face, —I recall two cases especially; you cannot find any evidence of a scar on either of these two patients.

The reason ambrine is not used more frequently is that it is a lot of trouble.

Dr. Isidore Cohn (In closing): Before making an attempt to answer the questions, I want to read a quotation from Wilson's of Edinburgh work, mentioned in my paper: "The gradual development of toxicity of edema fluid (in the experimental animals) in the absence of bacterial growth strongly suggested that autolysis of injured tissue was responsible for toxin formation." In animals which were subjected by experimental means to burns, the findings show that these animals do develop toxemia from which they die.

With reference to the blood concentration as having first been suggested by Underhill, let us go back to 1862, when Baraduc suggested increased viscosity. You must have blood concentration in order to have increased viscosity.

With reference to the multiplicity of pathologic conditions, of course, we have them in burns, but it is an easier way to have a conception of all toxins, all pathologic conditions, arising from a common source, just exactly as the human race had an origin in a particular place and began to migrate.

I believe definitely that we should have certain concepts about the treatment of burns. Relief of pain and efforts to overcome shock are the most important immediate indications. Shock is not persistent. The febrile reaction, changes in the lungs and other organs, are due to some cause, which for want of a better name we can call "circulating toxins." At least for the present, it seems that circulating toxin explains the symptoms which one finds. In all burned cases, suprarenal involvement has not been found, so we cannot put that down as the primary cause of death in the majority of cases. If it was a constant finding, we would find it present in the first thirty-six or forty-eight hours. Shock may be the cause of death in these cases, but those who live long enough after that and die do not all have suprarenal involvement. Suprarenal involvement is secondary to the toxic process, and I believe that comes nearer to answering the question.

The ointment Dr. Hirsch suggests is, I think, another method of getting at the same thing. That particular ointment in all probability is as good as a great many others.

THE CARE OF COMPOUND INJURIES OF THE FACE*

JAMES BARRETT BROWN, M. D.†

ST. LOUIS, MO.

In any serious facial injury, besides fractures, there may be complications about the mouth, nose, orbit and nasal sinuses, and such a lesion may be called a "compound injury of the face."

If the patient has been unconscious, there has been some brain damage, and a neurologic examination, including x-rays should be done. Also, in most severe cases, x-rays should be taken of the cervical spine as fractures are frequently sustained here from the snap blows the head may receive.

In the instance of extensive laceration and the presence of foreign bodies, it may be best to wait until the patient is in the operating room before manipulating the tissues simply to find out the extent of damage. There should be an evaluation of the loss, or tearing of all the features, the extent of detachment of bones and then, in regard to the preservation of function, any occlusion of the airway, loss of vision, or facial paralysis should be definitely determined.

If there is oil in the wound, some may be left behind in spite of the most careful debridement. In explosions such as from dynamite, small bits of clay are apt to be blown into the body. The same general rules apply here as elsewhere for the use of antitetanus and anti-gas bacillus serum.

THE LOWER JAW

X-ray diagnosis should be relied upon in all questionable cases. Complete views of both sides, including both condyles and the symphysis should always be taken, because one or more fractures may be missed on physical examination.

THE UPPER JAW

Demonstrating the regions of the maxillary bones and locating fractures may be very difficult. Good ideas may be obtained of the position of the heavier ridges of bone, such as the orbital borders, frontal processes of the maxilla and the whole zygomatic arch, and, since these are the main guides for the restoration of contour, attention should be centered on them, and an adequate number of views taken.

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society at New Orleans, May 3, 1938.

†From the Department of Surgery, Washington University School of Medicine, Saint Louis, Missouri.

Patients with extensive upper jaw injury should have the benefit of a complete skull series study, whether there has been evidence of brain injury or not.

WHEN TO DO THE PRIMARY REPAIR

It is thought definitely that these wounds and fractures should be cared for in the first twelve to twenty hours, if possible, before swelling, organization of clots and infection have occurred. If the patient is seen later than twenty hours and there will be the necessity of manipulation through heavy contaminated clots, then the replacement of bone fragments might be delayed although the soft parts might still be approximated.

Delay in treatment is to be made, as has already been mentioned, if there is neurologic damage that necessitates care or complete rest; if the general condition is such as to require transfusion or other relief of shock, and, if the patient is intoxicated, no jaw-to-jaw fixation should be done until the patient is recovering, and he is not apt to vomit.

Cleaning of wounds is a most important step, and may include saline irrigations, soap and water, ether as a solvent if necessary, the removal of hair, bits of clothing, all possible foreign bodies and detached chips of bone, and finally the application of antiseptics. The decision of when to clean and when to give the anesthetic is somewhat difficult, but a simple rule could be to clean as far as possible with the patient enduring it, and then get in local anesthetic through the wound itself or by deep block, or go ahead with general anesthesia if necessary and safe to do so. Oil ground into widespread abrasions is difficult to remove and may require scrubbing with brush and ether or benzine. Powder marks are almost impossible to remove completely and usually have to be actually cut out, although this often seems trivial compared to the other work necessary.

The usual idea of debridement, excision of edges and all loose torn tissue, should be practiced with care in wounds of the face to avoid the loss of any part of a feature.

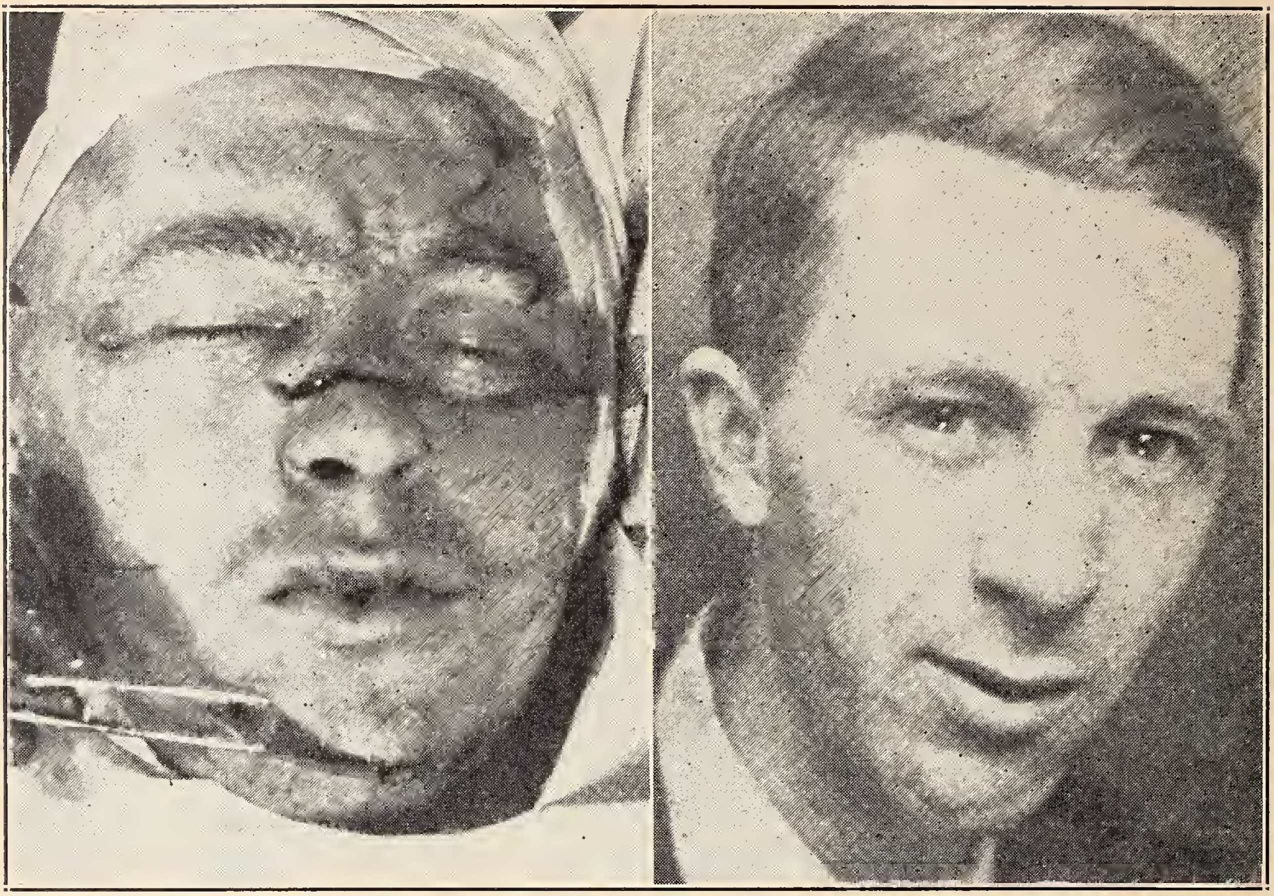
BONE REPLACEMENT

The next step is directed toward the replacement and fixation of bone. If the lower jaw is in two, with the covering torn off, then direct fixation through the open wound, by drilling and fastening the fragments together will give the quickest comfort to the patient. External dependent drainage should be considered in all patients. If the nasal airway is occluded, it can be re-established by carefully introducing a long speculum and dilating it, and then slipping through the meatus on each side a good-sized rubber tube; other bone replacements should then be done such as elevation of orbits and the nose, and the same rule about conservation of bone should be applied as for the soft parts. If the sinuses are involved, wound infection may be more likely if they are already infected; the antra are easily drained through their fracture lines in the buccal fornix and, if the frontals and ethmoids are open, they can be left with fairly large rubber tubes carried down into the nose. (These should not be irrigated later.) Usually, simple wires either direct or from jaw to jaw, or from side to side of the nose will suffice. Dental splints, overhead traction with plaster caps and skeletal traction may be occasionally necessary, but one premise of the work outlined here is to omit complicated splints and apparatus if possible.

SUTURE OF SOFT PARTS

In irregular tears, a start should be made from a known point such as a lip or nostril border; if this cannot be determined, then a start can be made in the center of a wound and the remaining segments bisected with each suture until closure is obtained. If there are flaps torn loose, it is necessary to put them in their proper places to avoid late deformity, especially about the lids, nose and mouth.

Surface key sutures may be used for the known points, and these may have to be deep but they should never be wide. Between these, deep fine silk sutures may be



Figs. 1A and B. Multiple lacerations of the face with deep cuts into the jaw bone itself and into the frontal bone but without fracture. Result of immediate suture of the wounds and application of a sea-sponge pressure bandage (photograph taken after two weeks).

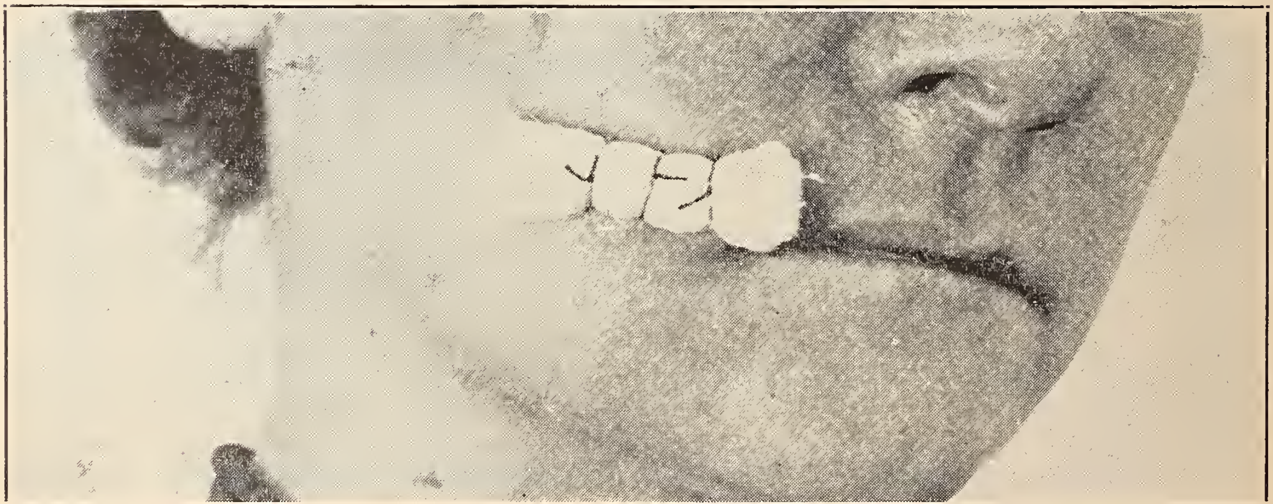
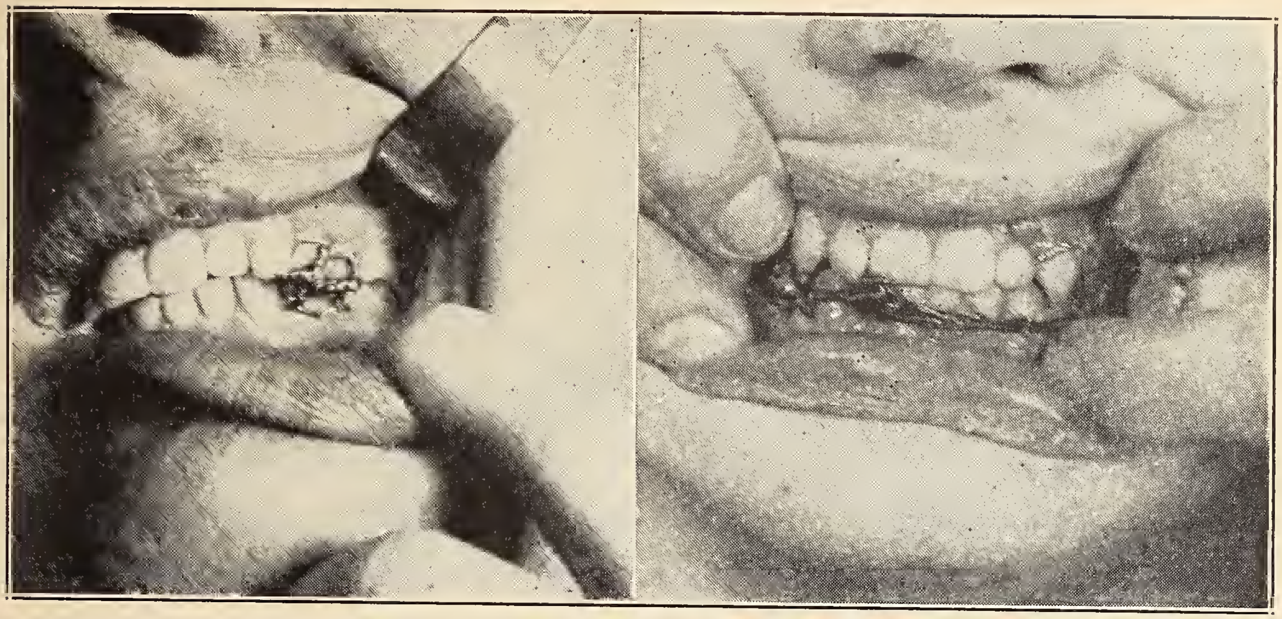


Fig. 1C. Method of tying stay sutures over a gauze roll to prevent scarring, and to give solid fixation (shown in another patient).



Figs. 2A and B. Simple method of wiring broken lower jaws. This is the Gilmer method and there are many deviations and modifications of it. Strong, stainless steel, iron or heavy brass orthodontia wires are put on all eight bicuspid teeth and the jaws wired together in their correct occlusion.

Simple method of putting on an anterior arch, suggested by Risdon. A rather heavy wire is put on each posterior tooth and then their long ends are brought together and fastened in front; then small individual wires from separate teeth are attached to this arch.

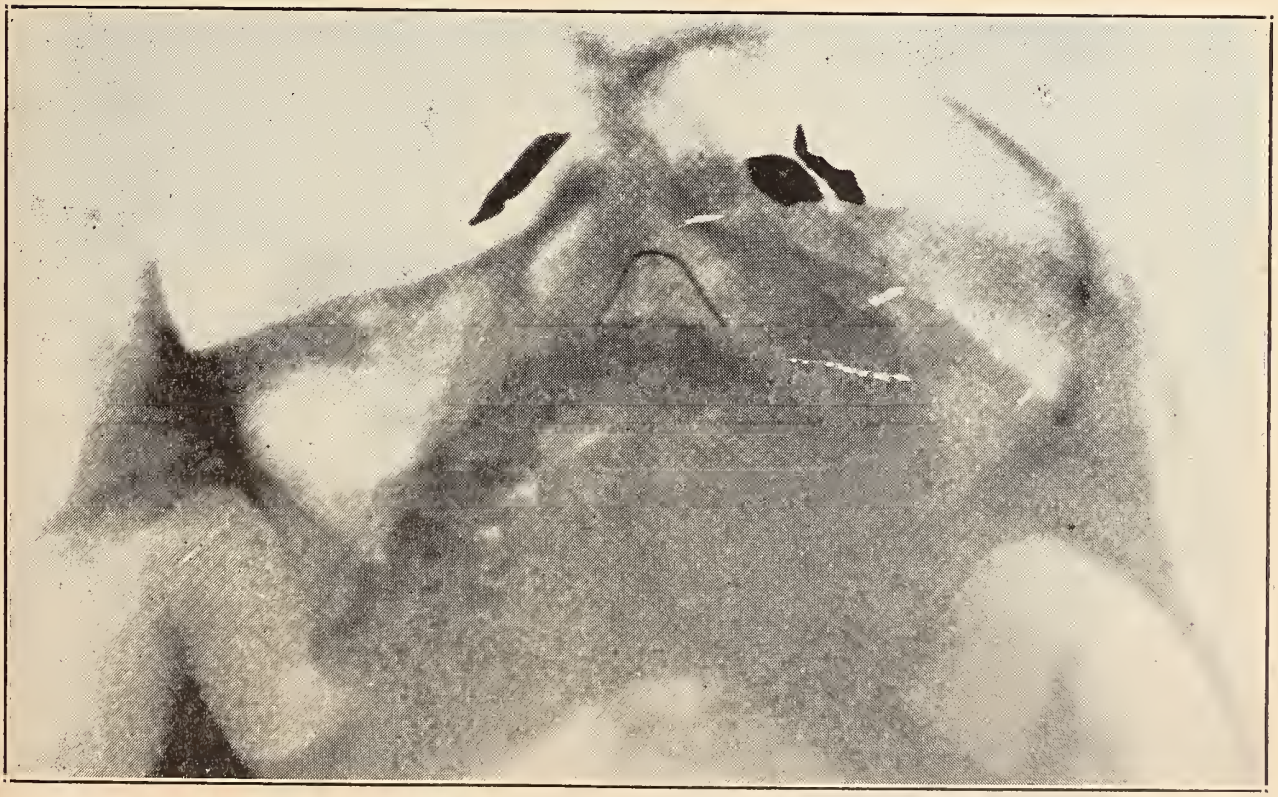
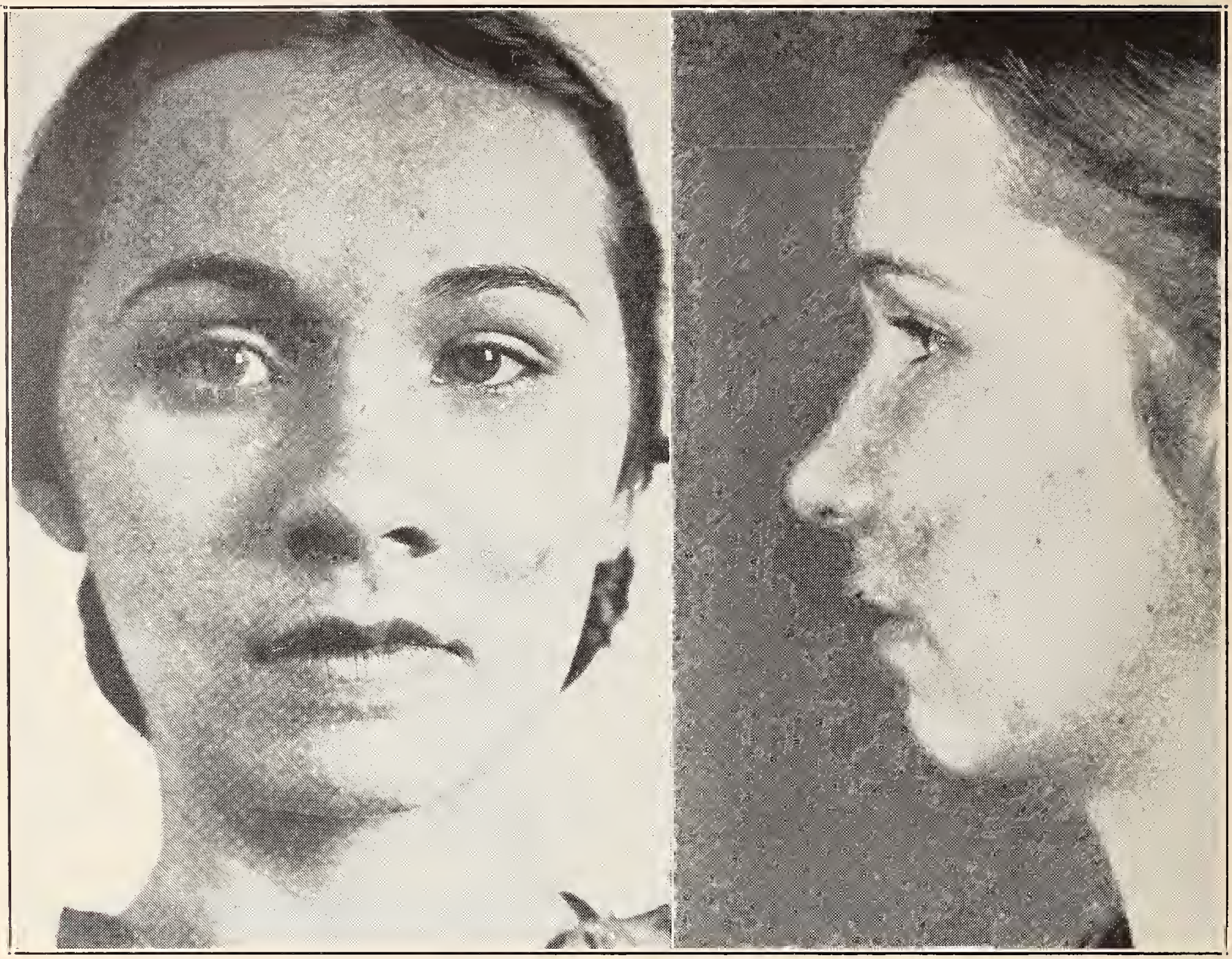
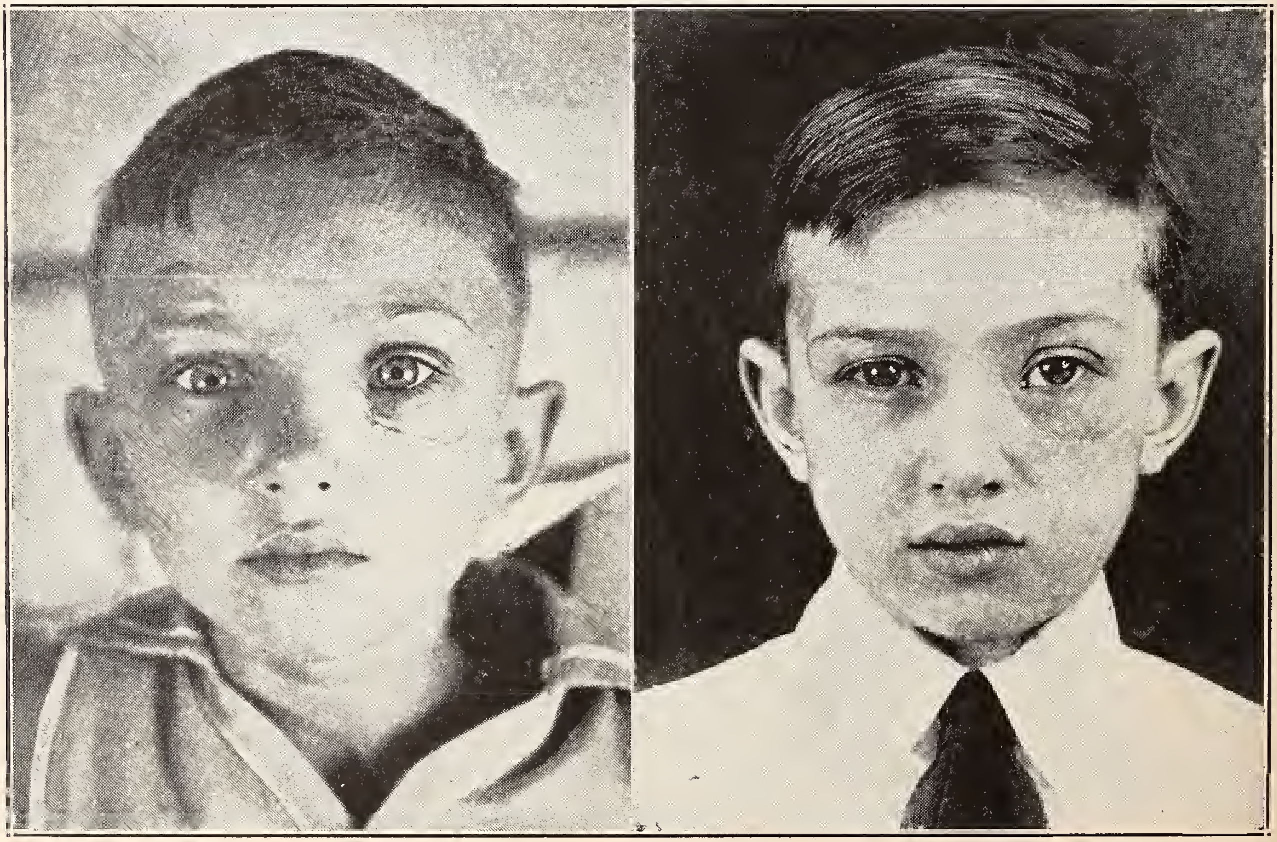


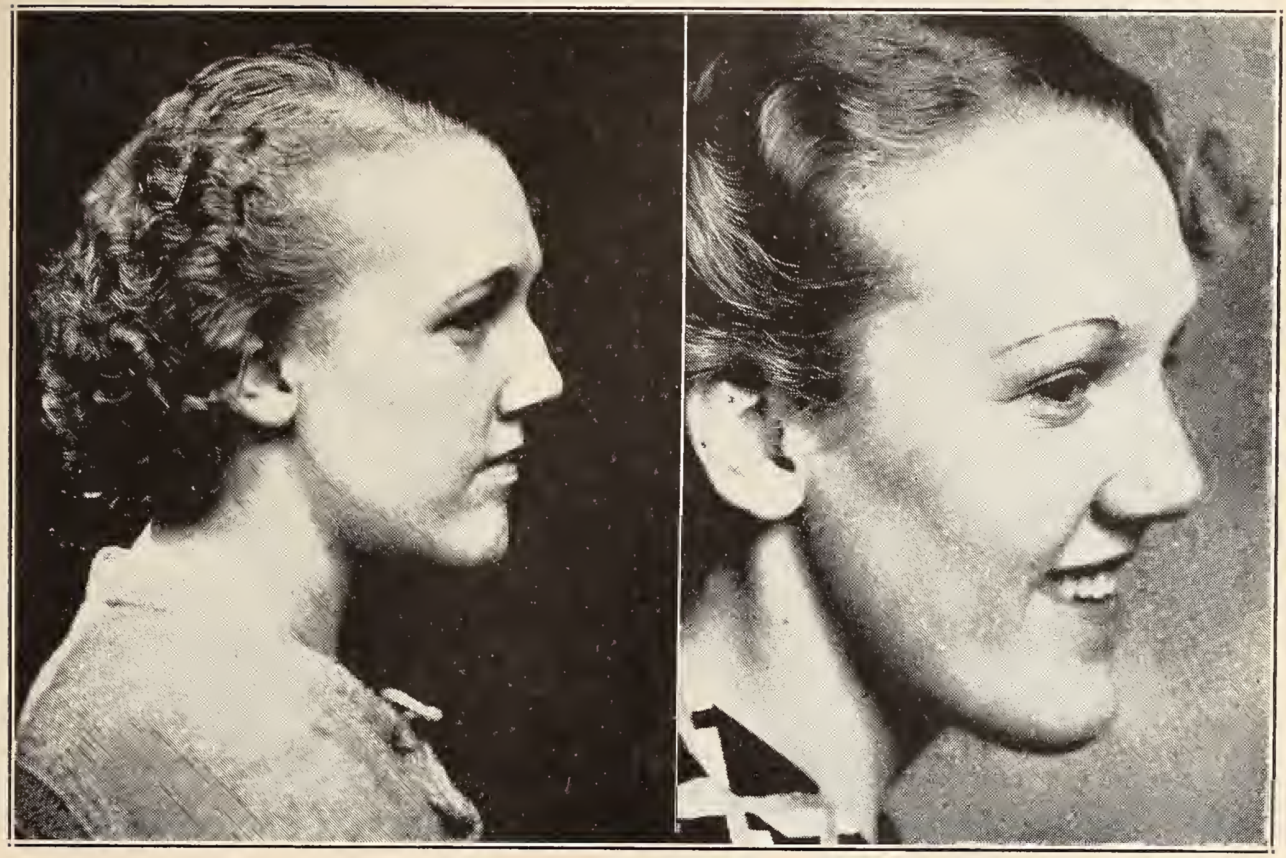
Fig. 3A. Upper Jaw, Orbital and Nasal Fracture: The marked comminution of bone is due to a heavy blow distributed widely over the face. Restoration done by elevating both orbital borders through the antra and elevating the nose and holding all fragments in place with packing and wiring without the use of splints. In the x-ray are shown (1) lead plates on each side of the nose through which a silkworm gut double mattress suture passes from side to side to hold the nose up and the inner canthi in place; (2) iodoform pack in antrum to hold the orbital border up; (3) triangle wire loop from nasal spine to incisor teeth to maintain the length of the nose.



Figs. 3B and C. Final result after one operative procedure.



Figs. 4A and B. Secondary Facial Repair: Tearing out of inner canthus and blocking of nasolacrimal duct so that pus over the globe was the main symptom. Result after a single operation for removal of the blocked tear sac and resuture of the scar.



Figs. 5A and B. Late Repair of Nasal Fracture Deformity: Nasal deformity that has resulted from a fracture early in life. It is probable that most late deformities such as this are due to unrecognized fractures in childhood and that, if this type of injury could be repaired immediately by simply elevating the nose back into its original position, many of these late deformities could be avoided. Result of one operation of complete freeing and repositioning of the bones and cartilages.

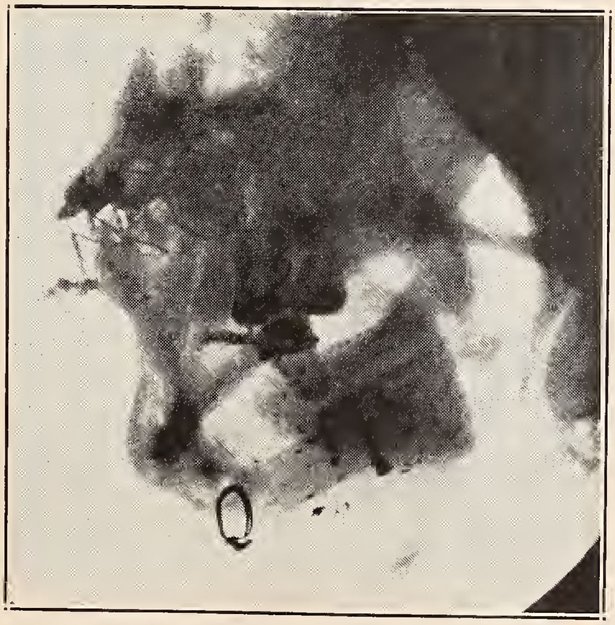
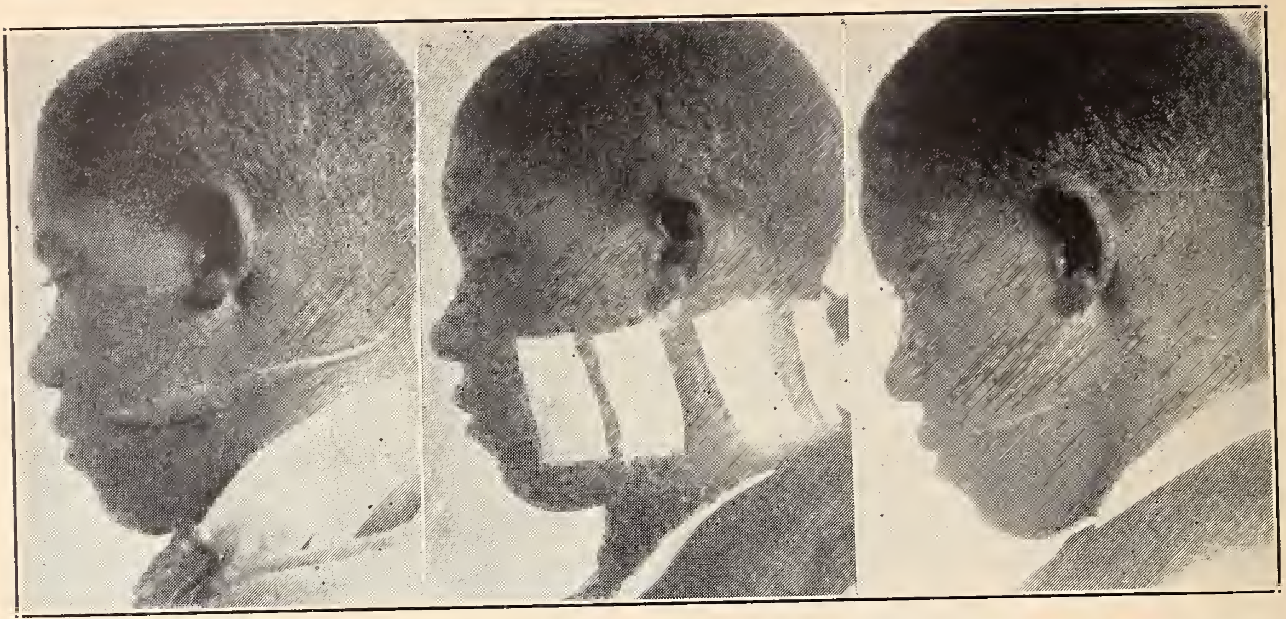


Fig. 6. Restoration of Jaw After Eleven Years: Bone graft for loss of substances. Rib graft used to bridge eleven-year-old gunshot loss in lower jaw. Fixation of graft fragments obtained by wiring graft in place and interdental wiring. The tooth that has been retained in the posterior fragment has been of great help in stabilizing the jaw.



Figs. 7A, B and C. Keloid Formation and Treatment: Moderate keloid formation after several months. Support of wound for three weeks after operation. Final result with some widening after one year but with no keloid formation.

A plan of operation is to excise the growth and carefully repair the wound with subcuticular stitches only, except for deep sutures, if necessary, which are tied over gauze pads as shown in Figure 1C. Not all keloids, especially in negroes, respond this well, and, if there is a tendency for recurrence, radium treatment can be tried, using 25 milligrams of radium in one millimeter of silver and one millimeter of rubber for one hour per 1.5 centimeter of linear wound length. This small dose can be repeated several times safely.

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placed so that the wound edges are closed before any other skin sutures are inserted. These wounds are apt to be tears rather than cuts and the epithelium may be lost along the edges, which may be very ragged. If these uneven edges are carefully replaced, the result may be better than a straight line.

Large or small trap-door flaps often give bad final scars because of the tendency for a circular contraction, and they should, therefore, be closed as carefully as any other wound with especial provision to prevent blood clots under them.

DRAINS AND DRESSINGS

Small drains are used at suitable dependent areas if the necessity is at all apparent. Careful dressings using marine sponges to supply pressure to control hemorrhage and swelling, and thereby infection are extremely important.

A few further noteworthy subjects are as follows: In doing debridements of a shotgun injury, an attempt should not be made to remove all of the shot.

Where wide areas of soft tissue have been lost, as good a closure as possible should be made with an accurate notation of the estimated loss, for future reference in repair. If necessary, simple closure of skin to mucosa can be done.

Bony union need never be expected in the upper jaw, mainly because of the thin plates of bone here which simply cannot bridge across, but fibrous union usually suffices for steadiness. In the lower jaw, the fracture line may persist on x-ray even though there is solid functioning union and with visible cortical bone on exploration. The reason for this lack of calcium deposit is not definitely known but may be due to long-continued infection. This is an important medico-legal point.

If orbital borders are left down too long, there may be such derangement of the ocular muscles that binocular vision may never be attained even though the globe is raised.

Wide suturing, infection, misplacement of flaps and keloid formation account for most deformities, but secondary repairs are necessary in almost all extensive injuries, and this possibility should always be considered from the start with the patient or some responsible relative.

Space does not permit a complete discussion of all of the details of care, but some of them are discussed in the legends of the illustrations.

PITFALLS IN THE X-RAY DIAGNOSIS OF INTESTINAL OBSTRUCTION*

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AND
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The purpose of this presentation is not to belittle the value of x-ray examination in intestinal obstruction, but rather to attempt to safeguard it by pointing out some limitations which, disregarded, may lead to its neglect or disuse. Everyone is familiar with the fact that normally there is little or no gas present in the small intestine in adults. (In children there may be considerable present.) Most of you are familiar, too, with the gas shadows which occur in the typical x-ray film of mechanical intestinal obstruction or of ileus. The presence of large amounts of gas in the distended loops of jejunum or ileum give rise to the so-called stepladder or herring bone shadows, which are characteristic and usually easily recognized. If films are made in the erect position or anteroposteriorly with the patient lying on either side, this abnormal gas, rising above the fluid content of the bowel, gives the so-called intestinal fluid levels. These abnormal gas shadows and the fluid levels, or their combination, are the characteristic findings in the typical case of mechanical intestinal obstruction or of paralytic ileus. It might be well to state at this point, that we do not believe it is possible by x-ray examinations alone to differentiate between these two conditions, that is between mechanical obstruction and paralytic ileus. Some roentgenologists have attempted to do so but in our hands the findings have been identical. Neither do we believe it is possible by x-ray examinations alone to diagnose peritonitis. We can of course determine the presence of free air in the peritoneal cavity and conclude that the patient has a ruptured hollow viscus and possibly peritonitis, but without free air in the cavity we believe that the x-ray diagnosis of peritonitis cannot be made. When such a roentgen diagnosis is made the radiologist is probably using clinical findings subconsciously.

X-RAY FINDINGS IN TYPICAL AND ATYPICAL CASES

To revert to the subject, the x-ray findings in the typical case are characteristic and there is little chance of error. But in these cases the surgeon usually needs no diagnostic aid and the x-ray is useful mostly for confirmation of the diagnosis.

In the doubtful cases with minimal findings where diagnostic help is needed unless careful attention is paid to the clinical side too much importance cannot and should not be placed on the finding of dilated loops of bowel or of the fluid levels. For very often these patients are seen by the roentgenologist after full doses of morphia or other sedatives have been administered and one or more enemata have been given. The combination of morphine and enemata, with the resulting incomplete evacuation, is a fruitful source of dilated gas shadows and of fluid levels which may be interpreted all too easily as being in the small intestine instead of the colon. One of our cases illustrates this very well. He was seized with severe abdominal pain which morphia and enemata did not relieve. Flat plates of the abdomen showed dilated intestinal gas shadows with multiple fluid levels, apparently in the small bowel. Clinically too it was difficult to exclude an intestinal obstruction and, had he not himself been a surgeon he probably would have been operated on forthwith. A barium enema, however, demonstrated the fluid levels to be in the colon and not in the small intestine. Treated conservatively he recovered rapidly and since has had several less severe attacks of similar pain which have been interpreted as ureteral colic. So, when there is doubt as to the location of fluid levels, i.e. in the small or large intestine, a barium enema should always be administered.

Urinary calculi frequently of themselves without morphine or enema will cause an accumulation of gas in the small intestine, and most frequently the patient receives the offending morphine and enemata, additionally clouding the picture. The finding of a urinary calculus on x-ray examinations should place one on guard against a diagnosis of intestinal obstruction.

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society at New Orleans, May 4, 1938.

In patients of advanced age, fecal impaction and sluggish colons will frequently cause abnormal gas shadows in the large and small intestine which the unwary may consider due to obstruction or ileus.

Occasionally when necessary we administer a small amount of barium by mouth in doubtful cases. We are aware that is criticized by many authorities but we have never seen any harm done by it. The varying mucosal pattern of the several portions of the small intestine will sometimes determine not only the presence but also the location of the pathology. The small barium meal is observed over the necessary period of time and if no obstruction is present a full barium meal is additionally given to complete the examination.

CASE REPORTS

The first, an adult male, was referred for the usual flat plates of abdomen. His films showed large amounts of abnormal gas in the small and large intestine. His clinical picture was that of surgical abdomen. However about 12 hours prior to the x-ray examination he had received a spider bite on the thigh, the onset of the symptoms following almost immediately. The consulting internist, with unusual information and judgment, suggested and insisted that the spider bite was the cause of the symptoms and of the x-ray findings. The patient was closely watched but treated conservatively. A small barium meal was given and, while there was considerable intestinal stasis, the meal eventually passed through the entire colon without obstruction. He recovered rapidly and without incident. We have since learned that in other sections of the country where spider bites are more common severe abdominal symptoms are frequently encountered.

The second case was a boy, aged nine, who while playing was thrown violently, striking his abdomen. There was severe pain which became localized in the lower right quadrant. A dose of Epsom salts was given by the parents and a bloody stool followed. The x-ray examination showed multiple fluid levels apparently in the small intestine but no evidence of free air in the peritoneal cavity. The clinical and x-ray impression was that the child had a traumatic ileus with possibly some injury to the viscus. Abdominal section showed no dilation of the small bowel. The colon contained a large amount of blood, the presence of which accounted for the fluid levels. No blood was present in the peritoneal cavity and no external pathology seen in the colon. Recovery was uneventful.

SUMMARY

As stated in the beginning we present these cases simply to emphasize again the time worn, monotonous, but always valuable admonition that close correlation between laboratory procedures and clinical findings is a necessity for the proper interpretation of the laboratory findings.

DISCUSSION

Dr. Chaille Jamison (New Orleans): It is scarcely the place of the internist to discuss radiologic findings, and certainly that portion of the body which lies above the diaphragm hardly comes within his realm. A point has been made here, however, that affects diagnosis, and it is one that we should always bear in mind, that is, the great tendency to throw the diagnostic burden upon the radiologist, which he cannot be expected to carry. We are too prone to forget the clinical findings. Now, if we know that in the particular case with which we are dealing it is a condition in which a paralytic ileus is common, we are not liable to be troubled about the diagnosis. Where, however, there may be paralytic ileus, or organic obstruction, or where there may be simple constipation, we are very frequently in an extremely difficult position. The ray is of the greatest help in the conclusion at which we may arrive. I think, however, that auscultation of the abdomen has been tremendously neglected. We are in the habit of auscultating the chest, listening to the phenomena from the lungs and heart, and we forget that auscultation has a very prominent part in just the condition under discussion. We like to think that auscultatory silence is a necessary part of obstruction; of course, such is not the case. When organic obstruction is going on, we get a change in the peristaltic sounds which is characteristic; peristalsis has a rushing sound. There is a peculiar characteristic tinkle if the condition be such that peristalsis of the gut is going on, for instance, where there is some inflammatory obstruction of the gut which is going to be followed by ileus or peritonitis. Then following these sounds we get an ominous silence, very characteristic technically.

It seems to me that there are a few established facts that we should always remember: First, that in organic ileus, the traumatic symptomatology is not due to the obstruction of the gut; it is due to the injury of the gut and to the onset of reverse peristalsis. And we should remember again that in a slow obstruction, for instance, in carcinoma, that complete obstruction may occur with practically no symptoms, and the contents of the bowel be backed against an obstruction without any reverse peristalsis, or without any great systemic reaction coming about.

I regard the ray as the greatest help in a negative sense. Where there is obstruction, organic or adynamic, where ileus or paralytic ileus occurs, we are going to get such evidence in the x-ray. If neither ileus nor organic obstruction exists, such levels are going to be absent. In the adult, there is very little gas in the small intestine. I use the ray a great deal when I am unfortunate enough to see patients in these toxic conditions, and we see them in pneumonia. But it is the negative phase that impresses me the most. I should not dare to make a diagnosis of organic obstruction on the appearance of the x-ray plates alone, no matter how skillful the interpreter. On the other hand, I would be perfectly willing to make the diagnosis of no obstruction provided that no radiologic evidence was present.

Dr. Ambrose H. Storck (New Orleans): The x-ray demonstration of distended loops of intestine or of fluid levels certainly may be misleading. Diffuse gaseous distention or multiple diffuse fluid levels may be due to a purely adynamic ileus. Localized abnormal gas accumulations or fluid levels, on the other hand, usually signify mechanical obstruction. Also of importance in the x-ray diagnosis of mechanical intestinal obstruction is the presence or absence of gas in the large bowel. Following small bowel obstruction, the gas which is normally present in the colon is frequently expelled.

Dr. C. P. Rutledge (Shreveport): I think from the discussion we realize that the study of these patients is not a one man problem; we need consultation, we need the surgeon, we need the radiologist. We should not be satisfied in sending these cases to the x-ray department just for a film study. They should be studied from different angles and the x-ray findings should be correlated with the history and clinical findings.

Dr. A. L. Levin (New Orleans): Intestinal obstruction is a subject of vital interest to the surgeon and internist alike. My review of 115 cases of intestinal obstruction from the records of Hotel Dieu, between the years 1932-1935, was published recently in the Review of Gastroenterology. I wish to quote my own remarks: "Intestinal obstruction is a tragedy; all the diagnostic resources at our command must be quickly mobilized to aid in such an emergency. The radiologist plays an important role in the diagnosis of intestinal obstruction but he is not infallible." The essayists admit that there are x-ray diagnostic pitfalls. Two cases of interest come to mind which demonstrate very well that fecaliths play an important role in causing obstruction. The radiologist, bearing this in mind, can determine the presence or absence of fecaliths by a barium enema, if the case warrants such a procedure.

Case 1. A middle-aged school teacher complained of indigestion and constipation for many months; finally vomiting and symptoms of obstruction developed. A radiologic study of the colon was not made; surgery was advised on the x-ray evidence of the upper tract alone. The cause of the obstruction was traced to numerous fecaliths in the colon. Such patients become toxic and are poor surgical risks; they should be treated medically.

Of the eight patients reported by me, six were treated medically and recovered; two were treated surgically and they died.

Case 2. An elderly woman developed intestinal obstruction; no bowel movement for eleven days. A large mass which was present in the right abdomen was considered to be a ruptured appendix. Surgery was advised. A medical plan of treatment which I suggested gave relief in about an hour. The mass was a large fecalith in the cecum harboring a large cholesterol stone. Here again, no barium enema studies of the colon were made. Such incidents should teach us a lesson of caution; we should not depend upon a flat plate alone in cases of intestinal obstruction. A barium enema of the colon will often prove to be a life saving method.

Dr. Lucien A. Fortier (In closing): It is absolutely correct that we should have consultation and cooperation in these cases. We got a little bit away from x-ray diagnosis, but it is to be expected and shows that the clinical side has to be considered.

CONGENITAL CYSTIC DISEASE OF THE LUNGS

TWO CASE REPORTS, WITH A NOTE ON THE DYNAMIC PHASE*

ROBERT H. BAYLEY, M. D.[†]
AND
DAVID E. FADER, M. D.[†]
NEW ORLEANS

Since Koontz's and Miller's first contributions to the subject in 1925 and 1926, the literature of congenital cystic disease of the lung has been kept up to date and the clinical aspects of the condition have been considered by Adams and Swanson, Eloesser, Anspach and Wolman, and Oughterson, to mention only a few of many excellent reviews. It is unnecessary, therefore, for us to do more at this time than report two cases of this condition, which we have recently observed, and to add a brief note on the pathogenesis with reference to its dynamic phase.

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*Read before the Orleans Parish Medical Society, October 24, 1938.

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CASE REPORTS

Case 1. A white farmer, 42 years of age, entered Charity Hospital at New Orleans April 5, 1938. His chief complaint was dyspnea on exertion. It had developed insidiously three years before, and had gradually become more severe. For a few months before his admission it had prevented ordinary manual labor. Palpitation had been associated with it, but neither the present nor the past history revealed any other points of interest. In particular, there had been no troublesome bouts of respiratory infection.

The habitus was asthenic and the complexion ruddy-tan. The mucous membranes and nail beds presented a mild cyanosis. The veins of the neck were distended during expiration and completely collapsed during inspiration. The chest was of the obstructive emphysematous configuration. Breathing was of the thoraco-abdominal type and was not exaggerated. The duration of expiration was about twice the duration of inspiration. The lung fields were resonant. The breath sounds were diminished throughout except over the lung bases posteriorly, where they were of increased intensity. The respiration, like the temperature and pulse rate, was within normal range.

The heart borders could not be determined. The heart sounds were distant; there were no significant murmurs; the blood pressure was 120/86. Otherwise the physical examination disclosed no abnormal findings. It might be added that casual observation of this patient was strongly suggestive of a chronic asthmatic state.

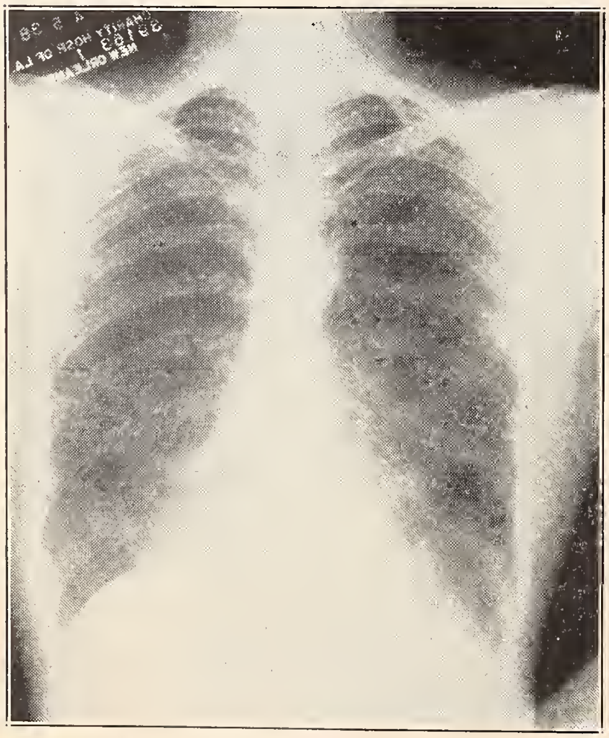

Fig. 1. Case 1. Radiogram of chest

The red blood cells numbered 6,200,000 and the hemoglobin (Talquist) was 90 per cent. The urinalysis was negative. The electrocardiogram showed left axis deviation with no evidence of myocardial disease.

Radiographic examination of the chest showed the upper three-fourths of both lung fields to be occupied by multiple air-containing cysts. The linear markings extending from either hilum were of condensed appearance and displaced toward the diaphragm. In general, these markings were curved in such a way as to present their convexities toward the cardiodiaphragmatic angles, as if from pressure by neighboring cysts.

Since the patient's disease was both bilateral and extensive it was felt that no type of treatment would benefit him. He was therefore dismissed from the hospital with the advice to avoid effort to the point of dyspnea and to avoid hazards which might invite respiratory infection.

Case 2. A colored laborer, 42 years of age, entered Charity Hospital October 24, 1937, complaining of pain in the chest and shortness of breath. His illness had begun about three years prior to admission with a gradual onset of dyspnea on exertion, which had continued steadily until the morning of the day of admission. Then, while he was dressing, he was stricken with a sudden, sharp pain in the lower sternal and epigastric regions. The pain radiated to the back of the chest and remained severe until his admission to the hospital that night. It was associated with marked dyspnea and intense headache.

The past history revealed that the patient had suffered practically all his life from repeated attacks of respiratory infection, characterized by a productive cough with mucopurulent sputum. The last attack of this sort had occurred five months before admission. He admitted having a penile sore in 1935, and stated that he had recently been receiving antiluetic therapy. He had had malaria in 1934, and had been operated on in 1936 for the repair of a bilateral inguinal hernia.

The patient was of good skeletal development, but was poorly nourished and acutely ill and dyspneic. The temperature was 98.6° F., the pulse rate 98, and the respiratory rate 28 per minute. Oral sepsis was marked. Cyanosis of the mucous membranes was present. The breathing was rapid and shallow and there was an expiratory grunt.

The trachea was in central position and there was no distention of the neck veins. Expansion of the right hemithorax was relatively diminished and on this side tactile fremitus was also relatively decreased. All lung fields were resonant. The breath sounds were absent over the right hemithorax anteriorly and were distant posteriorly. In the latter region were heard distant fine, dry rales. The breath sounds over the left hemithorax were of increased intensity, and fine, dry rales were heard anteriorly and musical rales posteriorly.

The heart did not seem to be enlarged. Its rhythm was regular and there were no significant murmurs. The blood pressure was 170/124. The remainder of the physical examination revealed no abnormal findings.

Urinalysis and blood Wassermann were both negative.

The chest was studied radiographically four times. The first radiograph, taken the day after admission, showed a pneumothorax on the right with about 20 per cent collapse of the lower half of the lung. The upper three-fourths of the partially collapsed lung was composed of multiple air-containing cysts averaging 5 cm. or more in diameter. The visceral pleura was distinctly visible overlying the scalloped border of the cysts. The cardiac silhouette and vascular pedicle were not displaced and appeared to be of generous dimensions. On the left side the upper three-fourths of the lung field was also occupied by multiple air-containing cysts averaging 5 cm. in diameter. The linear markings extending from the hilum appeared crowded toward the diaphragm and curved in such a way as to present their convexities toward the cardiodiaphragmatic angle. No definite areas of pneumonitis could be detected.

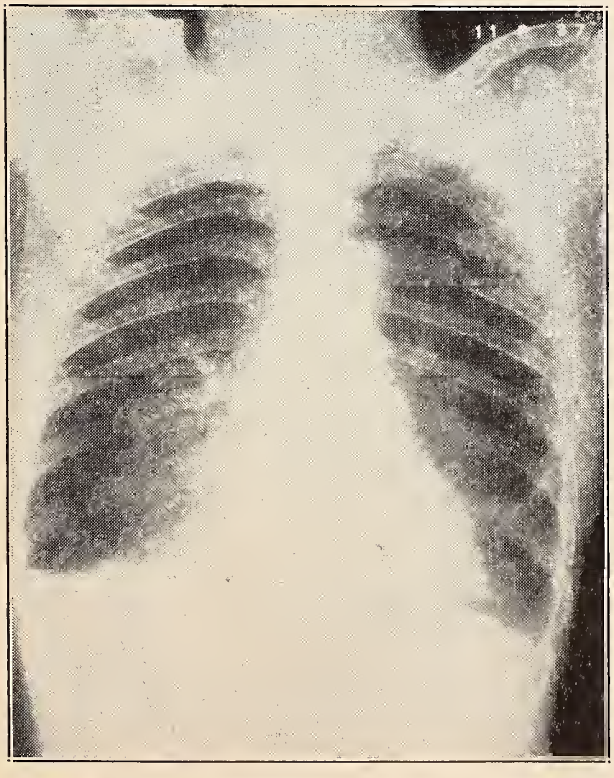
Fig. 2. Case 2. Radiogram of chest two weeks after admission to hospital.

The second radiograph, taken two weeks later, revealed findings similar to those just described except that a small fluid level had appeared in the pneumothorax space, obliterating the costophrenic angle. A third radiograph, one week later, showed that the pneumothorax had been absorbed. A fourth radiograph, 44 days after admission, showed a pneumothorax on the right which had produced about the same degree of pulmonary collapse as had been observed on admission.

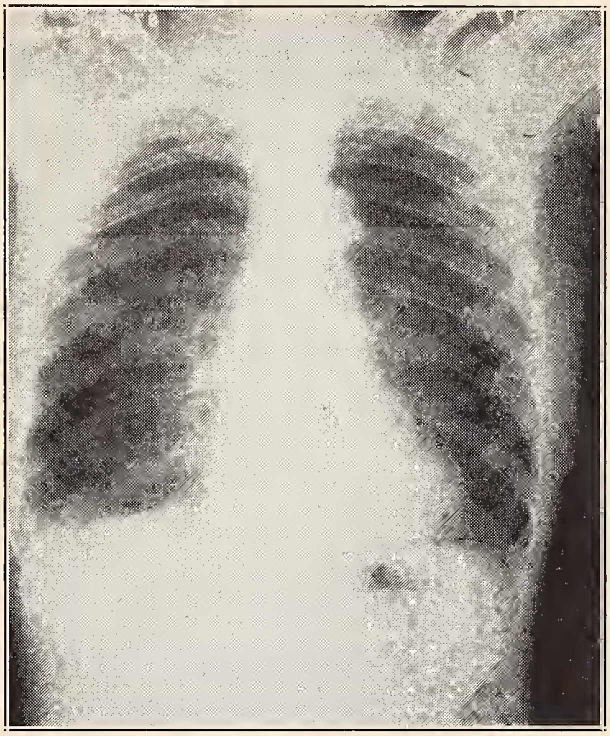
Fig. 3. Case 2. Radiogram taken one week later.

The patient's initial critical condition was relieved by aspiration of air from the right pneumothorax, together with the administration of morphine. His progress was excellent until the forty-third day (the day before the radiograph which showed a return of the pneumothorax). Then his smooth recovery was sharply interrupted by the development of a cough with bloody sputum, pain in the chest, dyspnea, and headache. His previously normal temperature rose at this time to 102° F. During the next eight days all the symptoms cleared up without special treatment. At this time the patient left the hospital against advice. As in the first case, however, the extensive, bilateral disease precluded any specific treatment.

DISCUSSION

Numerous explanations have been advanced to account for this type of cystic disease of the lung. Anspach and Wolman list them as: congenital bronchiectasis; excessive growth of interstitial fibrous tissue; defective energy of growth; underdevelopment of alveoli, counterbalanced by widening of the bronchi; congenital atelectasis; congenital syphilis; fetal pleural adhesions; neoplastic processes; bronchopneumonia. The authors comment on these various theories and also recall the excellent discussions by Koontz in 1925 and Mueller in 1928. It is not our intention to discuss the pathogenesis of cystic lung disease in general, but we may say that we are in full agreement with the theory that it is of congenital origin.

A consideration of the embryology of the lungs has, however, suggested to us an hypothesis concerning the dynamic phase, which seems to explain the essential clinical and pathologic features of the disease.

The bronchial and alveolar structures of the lungs are distinct in their formation at about the sixth month of intra-uterine life. They have taken shape by a continuous process of sprouting, not unlike the growth of a tree. Along with this budding process there occurs a differentiation of cell structure along the respiratory passages. During this same embryonic period elastic fibers have appeared in the interstitial tissue, although they remain insignificant until shortly after birth, when they proliferate rapidly (Kiebel and Mall).

We would ascribe congenital cystic lung disease to a developmental defect occurring in or before this embryonic period, wherein the terminal regions of the respiratory passages fail to reach proper maturity and blind, non-rigid, tube-like rests result. The defect may be definitely localized and only one terminal passage may be involved in the production of a potential dormant cyst. On the other hand, the developmental failure may be more generalized, and potential cysts may be created throughout a considerable region of one or both lungs.

These dormant cystic structures may be assumed to be of epithelial origin and would therefore be expected to differ considerably in details of structure in different cases, or even in the same case, depending upon the course taken by a further perversion of differentiation of cell structure. For example, the cells of the cyst wall may or may not acquire a secretory function. In any event, the primitive character of the cyst wall will have been lost at the time at which retained secretions or internal air tension have brought on great expansion.

Inherent in this etiologic hypothesis is the idea that at least the majority of such potential cysts will have a communication of some sort with the lumen of the terminal region of a neighboring respiratory passage. The rate at which dormant cysts of this kind develop into actual cysts is clearly a result of the external and internal forces which act upon their walls. In general, the external forces depend upon the perifocal tension. The internal forces are of a more complicated character, though ultimately they must depend upon the pressure of the fluid or (as is more common) of the air within the cavity of the individual cyst. If this theory be true, we might expect secretory cysts to appear at any time and to empty intermittently or not at all according to whether or not a free communication with the respiratory passage is established. If a communication exists, air may replace the fluid and subsequent expansion of the cyst may terminate the secretory function.

When the potential cyst becomes an air tension cyst, one or more intermittent free communications apparently exist between the interior of the cyst and the neighboring respiratory passage. The intermittent character of the free communication is accounted for by a variation of elastic tension acting upon the walls of the passage in such a way that there is a tendency to open up the communication during the end of inspiration and the beginning of expiration. Air aspirated into the cyst cavity during this interval may thus find itself trapped throughout the remainder of the respiratory cycle.

An air-trapping process of this kind almost certainly accounts for the expansion of these cystic structures. The idea is advanced that radiographic study of the chest before air-trapping begins may reveal normal findings. On the other hand, it is interesting to speculate on what determines the time at which air-trapping will begin in any given case.

As a general rule, solitary air-containing cysts are observed most frequently in early childhood, and the multiple variety is much more common in the adolescent or the early adult period. There is no clear explanation for such an incidence. It may be that the small number of cases on record at this time is not statistically representative of the actual facts. In this same connection it is well to bear in mind the point brought out by Adams and Swanson, that supposedly single cysts often prove at autopsy to be multiple.

At any rate, the fact that air-trapping begins either in early childhood or the early adult period can be explained quite logically. As we have pointed out, the elastic tissue of the lungs develops rapidly shortly before birth. The mean elastic tension must accordingly increase rapidly during this period, and if a critical point is reached, air-trapping starts at this time. A further increase in the mean elastic tension must then await a time at which the rate of growth of the thoracic cage exceeds the rate of growth of the lungs. This occurs in the late adolescent period, and if the critical point of increase of the mean elastic tension were not reached during early childhood, it might then be reached at about the time of puberty.

Cases which do not fall into either of these categories are also easily explained. The exaggerated breathing which follows physical exertion, or any respiratory infection, might elevate the mean elastic tension and thus set in motion the process of air-trapping.

We believe that in the two cases which we have reported the onset of air-trapping antedated the gradual onset of the dyspnea by a definite but indeterminable period, probably in the order of years. That is, we may assume that expansion of the potential cystic structures proceeded during the latent period at a rate comparable to that known to have occurred after the clinical horizon was reached. It is clear that once air-trapping begins, there is a tendency toward continued expansion of the cystic structures until some ordinarily disastrous limit is reached.

SUMMARY

1. Two cases of non-parasitic cystic disease of the lung are reported.

2. Certain features of the dynamics of the disease are discussed on the basis of a congenital etiology. The essential clinical and gross pathologic phenomena observed in this disease can be logically explained by this hypothesis.

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DISCUSSION

Dr. Oscar Blitz (New Orleans): Essentially, the diagnosis of congenital cystic lung disease belongs to the radiologist. The diagnosis should be suspected in infants and young children who present recurrent or progressive attacks of dyspnea and cyanosis. The clinical picture simulates an attack which is due to spontaneous rupture of the lung, congenital heart disease or obstruction of the trachea caused by enlarged thymus. In some children and adults, the condition presents itself in either one of two forms: first, dyspnea and cyanosis varying from slight amount on exertion to severe attacks which resemble spontaneous pneumothorax; second, if the cystic lung becomes secondarily infected, the syndrome presented may resemble bronchiectasis, pneumonia or empyema.

A symptom of note which was observed in two cases at Charity Hospital (not reported by Drs. Bayley and Fader) was the expectoration of a copious amount of sero-mucinous sputum which had a lot of air bubbles in it. This is brought about when the cells lining the cysts take on a secretory function. One of the above patients expectorated from 10 to 20 ounces of sputum daily; due to the quantity and character of the sputum, the diagnosis was suspected and later confirmed by roentgenogram.

Briefly mentioning treatment, one may start by saying that at its best it is usually of limited value, ultimate cures being reported in only a very few instances. Emergency measures, which include thoracentesis and the aspiration of enough air to equalize pressures, administration of stimulants, are life-saving when rupture of a cyst occurs or a tension intrapulmonic cyst develops. Removal of cysts in toto has been done by a few thoracic surgeons; lobectomy and even pneumonectomy have been performed, the results of which have not been startling. In cases of secondary infection, the treatment is symptomatic. Several patients have been operated upon when a diagnosis of empyema was made; at operation the typical glandular type of cells has been found lining the cysts wall and here only was the correct diagnosis made.

Apparently cystic lung disease occurs more frequently than is generally thought, and probably if we were more careful in our examination, our efforts would be well rewarded.

PULMONARY ATELECTASIS

A CASE REPORT*

CHAILLE JAMISON, M. D.,

AND

R. G. HOLCOMBE, JR., M. D.

NEW ORLEANS

CASE REPORT

J. S., a negro laborer, 34 years old, sought admission to one of the hospitals of the city on the evening of November 18, 1937, because of pain in the lower part of the right side of his chest, and of malaise. On November 16 the man had stumbled, when stepping from the street to the side-walk, and was unable to prevent a fall. In falling he struck the right side of his chest on an iron bar, protruding from a telephone post, the force of the blow causing him momentarily to lose his breath. No discomfort, other than "pain and stiffness" in the region of the traumatized area, was experienced until Thursday morning (about 24 hours later) when, following a chill and feeling badly during the rest of the day, he came to the hospital. He had been perfectly well prior to the fall, and had never been sick before except for an abscess of the right lung in 1922, from which he fully recovered.

In the admitting room the temperature was 101°, the pulse 110, the respirations 18, and the B.P. 128/62. The patient looked acutely ill, and on coughing produced a small amount of purulent sputum. There was an area of tenderness in the right axilla over the eighth rib, about the size of a fifty-cent piece, due to a fracture of this rib. There was some lagging of the left side of the chest; the percussion note was impaired and fine crepitant rales were heard over the entire left side in its lower part.

A tentative diagnosis of bronchopneumonia was made and an x-ray of the chest made on the way to the ward. Morphine was given in order to relieve the patient's right chest pain of which he complained. On admission to the ward the patient was re-examined thoroughly and the above findings were noted with this exception that no rales could be detected.

Sputum was typed by the Neufeld method and type IV pneumococci found. A Ziehl-Neelson stain of a smear of the sputum revealed no Mycobacterium tuberculosis. The blood picture revealed a leukocytosis of 11,000 with 88 per cent neutrophilia. No malarial parasites could be found. The urinalysis presented no abnormal findings.

After the patient had been placed in bed he felt much better. The following morning, 24 hours after the chill, he felt well and presented no complaints with the exception of the pain over the traumatized area. The x-ray plate made the night before was examined and presented the picture of bronchopneumonia and yet the patient appeared to be feeling perfectly well with only the complaint of the pain in the right lower chest.

In view of the above findings the possible diagnosis of multiple small atelectatic areas in the left lung as a result of the trauma received on the right side of the chest was advanced. Considering this possibility the patient was made to take several deep breaths every fifteen minutes during the day to promote re-expansion. On Saturday morning, thirty-six hours following admission to the hospital and forty-eight hours after the chill, another x-ray plate of the chest was made. A remarkable clearing of the process was found. The patient's right chest was strapped and he was retained in the hospital eight days more so that he could be observed. He felt well during this time, had a good appetite and as far as physical examination could reveal had made a complete recovery. The temperature, pulse, and respiration observations made on this patient while in the hospital are presented as well as the two x-ray plates.

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society, New Orleans, on May 4, 1938.

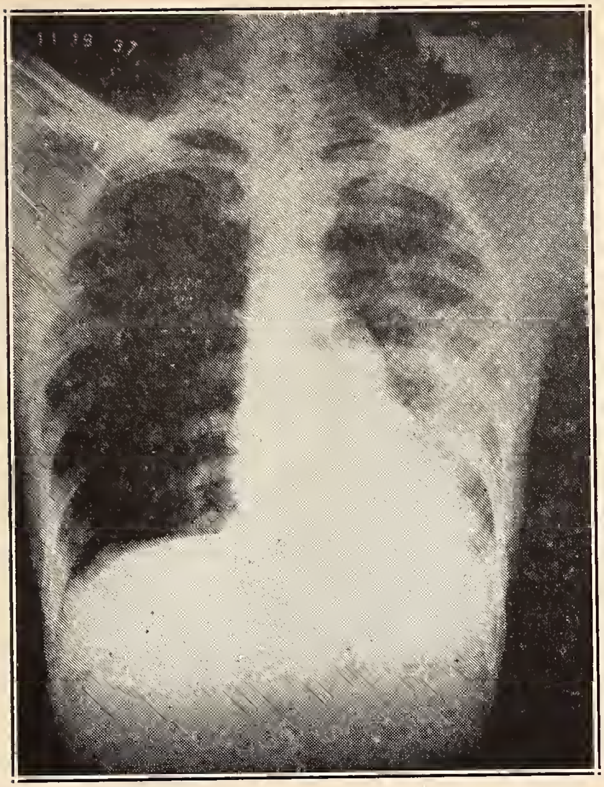

Fig. 1. X-ray plate made on admission, showing multiple areas of atelectasis in the left lung.

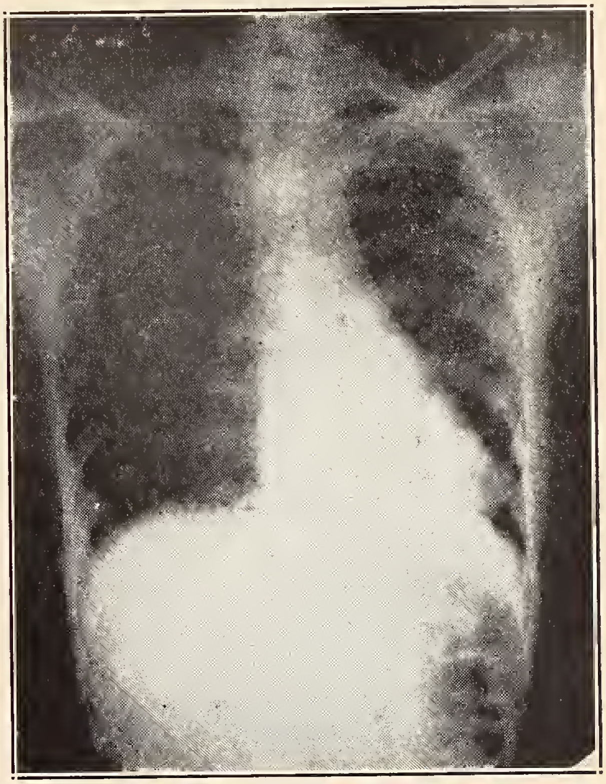

Fig. 2. X-ray plate made 36 hours after admission, showing complete clearing of the process in the left lung.

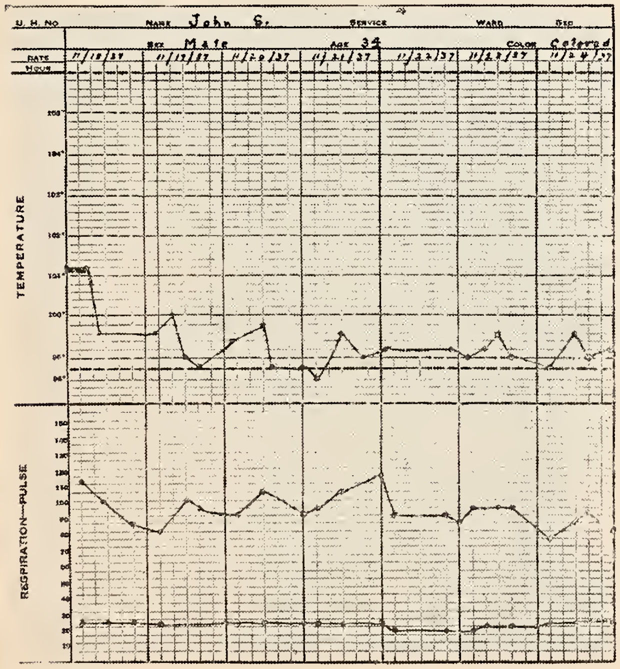

Fig. 3. Temperature, pulse rate and respiratory rate curves recorded during the patient's stay in the hospital.

COMMENTS

In presenting this case report the purpose is to call attention to those cases in which there are multiple small areas of atelectasis following trauma. The literature contains many reports of massive collapse of a lung following trauma either to the chest wall or to a distant structure, but the condition presented here, it seems, is not one usually recognized. Attention should be called to the fact that the areas of collapse are in the left lung while the trauma was received on the right side of the chest. Especial note should be made of the normal position of the heart. The fact that the heart is not displaced in these cases makes the diagnosis a difficult one and probably explains the infrequent recognition of this condition which is probably much more common than one would suppose.

DISCUSSION

Dr. J. E. Knighton (Shreveport): It is my impression that pulmonary atelectasis following trauma is comparatively rare, and for that reason this case report is of unusual interest. I am sure we have all observed this condition following surgical operations, and especially operations involving the upper abdomen.

Formerly we regarded these complications as ether pneumonia, but it has been observed that it occurs in as great a percentage of patients operated on under spinal anesthesia as ether. When x-ray examinations of the chest became more common, our attention was called to the fact that the physical signs were really not such as to justify a diagnosis of pneumonia.

Patients who fail to get relief during the first two or three days may develop pneumonia as there is almost always some degree of infection associated with this condition.

Regarding treatment, Dr. Jamison has just about told the whole story when he suggested CO_2 inhalations. Occasionally it is necessary to use a bronchoscope for the purpose of aspirating the obstructing mucus plugs, but this necessity is rare. I have seen apparently good results from the application of diathermy through the chest.

I think it is well for us to remember, as suggested by the essayist, that pulmonary atelectasis does occur comparatively frequently in small as well as large areas of the lungs.

Dr. Randoph Lyons (New Orleans): I would like to bring out one point with which I am sure Dr. Jamison will agree. These patients following operation, sometimes show physical signs which are rather indefinite. But the thing that impressed me is the fact that these patients have no signs diagnostic of a true pneumonic condition; they do not look sick as in real pneumonia. We have had several in the wards recently following operations, and one man had a large atelectatic area and ran a fever for several days, but said he did not feel sick. The absence of toxicity frequently gives us a clue, and the x-ray may clinch it.

Dr. Allan Eustis (New Orleans): I have been very much interested in Dr. Jamison's paper. It is a very timely subject. I do not think that surgeons, at least those with whom I have come in contact, appreciate the dangers of atelectasis. The anesthetist is very careful, especially since the use of cyclopropane, to mix the oxygen with carbon dioxide or helium. A more recent procedure in postoperative treatment of surgical cases, especially with ileus, is to give concentrated oxygen through a nasal tube. I know of one instance where pure oxygen was given by the postpharyngeal route for 48 hours steadily, resulting in atelectasis and subsequent fatal pneumonia. What is the use of the anesthetist mixing helium and trying to distend the lung if the surgeon is going to put pure oxygen in there afterwards?

Dr. A. A. Herold (Shreveport): I had a case similar to Dr. Jamison's five years ago. The patient complained of dyspnea and could not understand what was the matter with him until we got an x-ray showing atelectasis. We gave him no treatment and he got well. I cannot understand how they get atelectasis without a wound, get it from direct trauma. I have seen cases of postoperative atelectasis following ether anesthesia and following local and spinal analgesia.

Dr. Chaille Jamison (In closing): Dr. Lyons spoke of the fact that there could be small areas of atelectasis without displacement of viscera, the mediastina or elevation of the diaphragm. When there is a big atelectasis, the diagnosis is very easy. But I think many of us fail to appreciate that there could be small areas of atelectasis throughout the lungs.

The next point I would like to emphasize again is one that Dr. Eustis touched upon. If oxygen is given in large quantities, respiration is slowed even to the point of trouble. Morphine in doses large enough to slow materially the respiratory rate predisposes to the formation of an atelectasis. Increased intra-abdominal pressure, as occurs in gastrointestinal distention, may also predispose to atelectasis by virtue of the upward pressure on the diaphragm with resulting impaired ventilation of the lungs. This atelectasis continues and pneumonia, true pneumonia, is very likely to occur. I have gotten more and more skeptical of pneumonias that absorb and disappear in a few days. I believe the majority of such cases are atelectasis and I am not sure that bronchial pneumonia is not first produced by an atelectatic area.

TREATMENT OF HEADACHE WITH THEELIN*

R. S. CRICHLOW, M. D.

NEW ORLEANS

The subject of headache or migraine is an old subject and one that has confronted our profession in all of its phases for years and it will continue to do so. I have no panacea for this condition. In every case it is necessary to search out the underlying cause and remove it; nor is the same causative factor found in all instances.

When an unusual condition is found and a remedy for it that gives relief, it is the physician's duty to pass the information on to other doctors so that this remedy may be used to alleviate suffering.

The headache, complained of by the patient whose history is given, came on in the early morning hours and lasted well into the morning. It was principally over the frontal bone and upper parietal region, severe in type, and occurred for the past year almost daily. There was nausea at times.

CASE REPORT

Mrs. X is a white woman, aged 62 years, a school teacher by occupation who has taught school for thirty years and is still teaching. She has always enjoyed good health, only illness of consequence being removal of appendix twenty years ago. Menses stopped eleven years ago. She has complained of severe headache in the frontal and upper parietal regions which comes on usually at night, especially in the early morning and lasts well into the day. These headaches began about ten years ago and have occurred at intervals of two or three weeks. During the past year they have been present almost daily. Hypertension has been associated with the headaches over a period of years. During the past two years she has been treated by two of our leading internists.

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*Read before the Orleans Parish Medical Society, November 14, 1938.

After school closed in June of this year she went to visit relatives in Shreveport and while there was examined by several specialists who found nothing to account for this condition.

She came to my office on September 3, 1938, stating that if possible she wanted relief. I had treated her from time to time for many years.

Examination of the eyes was negative except for a refractive error which was already corrected by glasses. She had a deviated nasal septum to the right with spur formation occluding the right nares and making severe pressure on the turbinate bodies. The left side was negative except for evidences of a chronic rhinitis. The throat was negative. The blood pressure was 210/85. She was five feet, six inches tall and weighed 130 pounds. Examination of urine negative.

COMMENT

These were the same findings I had found many times. I recommended submucous resection which she did not want done at this time. I talked with the doctor who had been treating her and he reported a negative physical examination.

I told her that the only thing I had to offer was injection of theelin in oil. I did not know that it would help her but would be worth trying, as she said she would do almost anything to get relief.

I started at once giving her 1c.c. theelin in oil, 2000 units twice weekly. After the second dose her headaches began to get less severe and her blood pressure dropped to 160/85.

At the end of one month, her headaches were reduced to one per week and they were much less severe. She is still getting theelin once to twice per week. When I saw her last she said she had not had a headache for ten days. Her general condition is much improved and she is now able to do much more work with greater ease than for some time.

My interpretation of her condition is that the headaches are largely of sinus origin, that the mucous membrane of the nose becomes congested in the early morning hours, closes drainage of the sinus and a negative pressure results from the air absorption. After she gets up and about the sinuses open up and the pain is relieved. On account of the hypertension she could not be given ephedrine or benzedrine products safely, so the therapeutic measures were largely palliative.

Theelin acts on the mucous membrane as a mild constrictor without raising the blood pressure and it has a prolonged effect, thus explaining the results obtained. I might further state that theelin in oil is used by some ear, nose and throat specialists as a local application to the nasal mucous membrane in treating chronic rhinitis and also in hay fever.

Along with the local action there may be an endocrine deficiency, and the adding of this ovarian extract helps to bring about a proper endocrine balance.

There is a very close connection between the mucous membrane of the nose and the reproductive organs. Hysterectomy in the young or middle aged woman, results often in tinnitus auria, fullness in head and nasal passage. I have often relieved these symptoms with corpora lutea or ovarian extract.

In closing may I add that we eye, ear, nose and throat men should give more consideration than we do to the endocrine influence on the ear, nose and throat.

OF PSYCHOANALYSIS*

J. K. HALL, M. D.
RICHMOND, VIRGINIA

"There are no accidents, sir, in the providence of God." That pronouncement was made at the dinner table in my childhood home to my father, the community's physician, by the pastor of the old church, who had come to spend the night in keeping with his conception of his pastoral duties. My father had just related to the old minister that a few moments after a citizen of the community had emerged at noon on that day from the depths of his deep well which he was sinking still deeper, the lower half of the well caved in, and that if the cave-in had occurred only a few minutes sooner a fatal accident would have been unavoidable. The years have rolled by, but through the medium of memory I can still see the impressive countenance with which the old divine reproved my father, and I can still hear the certain tone in which he expressed his belief in predeterminism, in the law of cause and effect, and in his all-pervading Calvinistic theology. I was only a child, probably not more than five years of age. Such words as providence and God and predestination meant nothing definite to me, but the old minister's solemn countenance, his short and vigorous utterance, and the courage he displayed in presuming to speak correctively to my father, not lacking in sternness himself, filled me with awe, and I was glad when the meal was finished, so that I might escape from such heavy philosophy.

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*Read at the meeting of the Richmond Academy of Medicine, April 26, 1938.

I had heard the old divine, on a previous visit to our home, tell my father that he had been graduated from Yale in the class with Chief Justice Waite. I knew nothing of Yale nor of the high office of chief justiceship, but I did know that as the old man of God went on his pastoral rounds in his rickety buggy the country people thought of him as all but omniscient and as living close to the Eternal Throne. Until old age had begun to dim his eyes, he had occupied one chair after another in the old Calvinistic college, and he was reputed to know all things. In the late afternoon of his life he elected to live far out in the country and to minister to relatively untutored people. His influence still lives as a benediction in the community in which his body lies in the grave. His terrible pronouncement impinged with such power and majesty upon my child's mind that I have never since been able to believe even in the possibility of an accident.

"There are no accidents, sir, in the providence of God." And the scientist has become, has he not, the successor of the Reverend Doctor Rockwell in declaring equally emphatically, if not so theologically, that accidents come not, but that the universe and all and every in it, sparrow and man, matter and mind, atom and mountain, earth and sea and air yield instant obedience to the great causative force that lies back of all and that dominates all. "There are no accidents, sir, in the providence of God." Even those who deny the very existence of divinity are generally unfaltering in their belief that they live, not in a universe in which chance runs riot, but in a world in which cause always precedes and brings to pass subsequent consequences. Science does its work upon the assumption that law and order prevail, even in circumstances attended sometimes by turbulence and by apparent momentary chaos. No scientist would have the courage to set forth tomorrow to his work or upon his adventure were he not certain in his heart that even the most trivial event of the day would be given a touch of grandeur by the long time it had been on its ordered way.

Yet our thinking, if we think, is always materialistically tinged. We are rather heartily inclined to give assent to the suggestion that in the domain of matter—in chemistry, in physics, in zoology, in biology, even in the wall of a caving well—natural laws prevail, and that consequences are preceded by causes. What is the far-flung, inconceivable, incomprehensible universe, indeed, but a boundless arena in which mighty energy, restrained and directed, constantly displays its protean manifestations? All the great forces of nature are invisible in their activities. Only by the consequences of their works can we discover them or measure them.

My father and the old physician of a neighboring community had met in consultation at the bedside of a desperately sick baby. The old doctor requested the distressed mother to bring him a cup of honey and a teaspoon. Into the honey he carefully dusted some white powder, and as he stirred the admixture he told the mother to give the child a teaspoonful of the medicine until it died. She cried out in distress and repeated his statement to him. He sought her forgiveness and corrected his lapse of speech by instructing her to give the medicine by the teaspoonful every third hour as long as the child should live. I, child though I was, sensed that the mother finally understood there was no hope for her child. The old doctor's innate honesty could not be kept from expressing itself even by his effort to inhibit his prognostic gloom from reaching the anguished mother.

Our nation had already entered the World War. The young doctor left the troop-train on a siding somewhere in Richmond early in the winter evening and came out to Westbrook to visit a relative. When he reached my office he told me that he was so afraid the train might leave him that he would only make inquiry of me and go straightway back to the train. But I hurried him on to see his relative and assured him that I would drive him to his train. As we neared the city I asked where his train was parked and he replied instantly that he had fixed its place carefully, as he left it, by noticing that on a large building near the siding was a great electric sign spelling out in large luminous letters: Ajax Shoes. He thought me stupid, after all my years in Richmond, not to know where the great warehouse was. How on earth could I think him mistaken? Did he not look long upon the great letters that spelled out "Ajax Shoes"? I must think him a fool, so he said, somewhat interrogatively. But I had never heard of any shoes that bore the name of the great Greek warrior, and I said so. Could it be, I finally asked somewhat timorously, that he had looked instead upon "Battle Axe Shoes"?

He still laughs, a trifle apologetically, when I occasionally see him, and we talk then about the unconscious association of ideas, about the influence of suggestion, about the invalidity of human testimony, and of many other profundities about which I actually know nothing. But he is a great physician, even though his mind had some unconscious objection to carrying in it the words "Battle Axe." His young wife was, even at that time, I found out later, far advanced in pregnancy, and a few weeks later, in response to his request, I referred her to an obstetrician in his camp-city in the far South, and that little baby is now a young lady. But his mind, without his knowing it, had turned "Battle Axe" into "Ajax." He told me, indeed, that if he had been in the witness chair he would have sworn by all the Olympic Host that he saw the great glaring letters spell out "Ajax Shoes." One is never so apt to be mistaken as when one is profanely certain.

Sometime, if you would lend me an ear, I should seek to comfort myself in communing with you somewhat about that vast domain referred to as the unconscious, in which the great doctor swapped off "Battle Axe" for "Ajax" without realizing that he had traded at all!

There is no down on an elephant, so my little boy informed me, when I could not tell him the best way to get down off an elephant. And there are no accidents at all! The doctor—he is much more famous now than he was then—may think that he accidentally substituted "Ajax" for "Battle Axe." But I know better. There was some powerful reason why he did not like the words "Battle Axe," and he had to take "Ajax" as a substitute, because he had to use the electric sign as a beacon to guide him back to his train. He could not afford to put "Battle Axe" clear out of his mind, much as he would have liked to part with it. But the train left, and I had no opportunity to explore his psyche.

At a medical meeting the doctor greeted me heartily by the name of my associate. I grasped his hand instantly and called him cheerily by the name of his associate. He protested, as if he had been wounded, that was not his name. I apologized for my error, which was deliberate and intended to be corrective, but he does not know to this moment that he had named me wrong. There is something peculiarly personal and intimate in one's attitude towards one's own name. One does not like to hear one's name bandied about carelessly, nor misspelled nor mispronounced. One's name is perfect, it should be used almost reverently, and it must not be forgotten by others. I believe certain primitive people think that by finding out the name of one's enemy in battle, somewhat of the enemy's strength and courage is acquired by them with the name. And the influence of that primitive belief may still be felt in warfare. Each of us, so great is our personal egotism, expects his face and his name to be known to all people. Not to be able to recall instantly at the second meeting the name of the most recent acquaintance is embarrassing, if not unpardonable. Each of us is of enormous consequence to self; we may not be justified in assuming that we are equally as important to others.

The dogmatism insists that it be stated. We might as well hear it. This is the dogma: One is not by some accident unable to recall the recently acquired name of a new acquaintance. One's mind retains the names of those it finds pleasant and agreeable, or has other specific reasons for remembering, and discards the names it does not care to retain. All of us know that. When our new friend is unable instantly to speak out our name—oh, well, we know he or she is not interested in us. Those who have never heard of psychology know that. If you would be most agreeable to recently acquired acquaintances learn by all the arts to call their names instantly when you meet them. We like the sight and the sound of our own names, properly used. And, I think I might add to the dogmas or dogmata, the assertion that one does not forget a name. One purposefully but unconsciously does not care to remember the name. One does not write the wrong word or leave out the right word accidentally in a letter. Such lapses are purposeful, though one does not know it. One does not accidentally or carelessly mislay keys and others things, or forget to mail a letter, or to write a letter. Such acts are purposeful. There is a wish to do each act and also not to do it. The stronger desire prevails, not accidentally, but because of its strength, and for some reason that lies deep in the unconscious.

But most of us are not consciously conscious that we even possess an unconscious, and our personal unconscious is wholly unconscious of its own existence. The unconscious is our mental basement into which are crowded the thoughts and the emotions and the experiences and the hopes and the fears of other days and of other years. They resent being crowded and they are constantly trying to escape from their incarceration. But we set a policeman to keep watch over them, and we call the guard the censor. Most of the time we are not conscious of the content of the unconscious, sometimes called the subconscious. But if we do something of which we keenly disapprove, and jam it down into the unconscious, and fail to forget it because it constantly tries to come up into consciousness, then we have a hard time of it and we may get drunk or develop insomnia or melancholia or commit suicide, because life with self may be intolerable. The procedure by which mental states are kept in the unconscious is called repression. The censor, unless it falls asleep or unless the repressed content prove too much for it, keeps them in confinement.

The mechanism by which our mental states are taken by the nape of the neck, one by one, and tossed willy-nilly into the unconscious, is called suppression. The latter is a more vigorous and difficult activity than repression. The unconscious is rather spacious, and crowded, too. In it are the delightful little speeches we would make all extempore when called upon wholly unexpectedly. But often, bless us! they are not there when we call for them. And in the unconscious are all those things, good and bad, learned long ago and recently, too. It must be a turbulent place—not unlike the interior of a gastrointestinal tract in which peristalsis is too active. When we get drunk the censor, the policeman of the unconscious, gets drunk, too, and you know what a herd of disreputabilities escape into polite and censorious and Christian society. When the old Roman observed the perturbation produced in personal conduct by too much bibulosity he sat down at his desk and covered the whole situation by writing three words: *In vino veritas*. In the old Roman's opinion, then, alcohol is not creative; it merely flings wide the basement door, and the herd gallop out and kick high their several heels.

Dreams? They are old, you know; stories of them are in Homer, in the Bible, and in the most recent literature. Dreams, too, come out of the unconscious, and they are modifications of personal experiences. But in adult life a dream is never what it seems to be. As it is related by the dreamer at the breakfast table the dream is all disguised so that even the dreamer does not understand its rich symbolism. Why does the dream come all dressed up, so that its meaning is not clear? For two reasons—so that it may fool the censor by its costume, and slip by him, and so that it may not appear objectionable, morally or otherwise, to the dreamer, and be kept back. The adult's dream is always a symbol and in need, therefore, of interpretation. But the dream represents always either the fulfillment of a wish or the realization of a fear. Betwixt the two the difference is small. The wish is hoped for; the fear is hoped against. The interpretations of the individual's dreams afford a richer and a more intimate revelation of his personality than his conscious mental activities offer. A multitude of inhibitions make our day-time mental life an untruthful representation of us. But whether we be awake or asleep, well or sick, sober or drunk, sane or insane, our minds are incessantly busy. The mind slumbers not nor sleeps.

In that vast but invisible and mighty domain of the mind, law reigns, effect follows cause, accidents do not occur, and by the quality of one's immaterial attributes one is more surely identified and more accurately estimated than by one's somatic conformation. And the mightiest of all empires is the domain of the unconscious. Out of it most of our conduct arises, though we know it not. Out of it come the neuroses and the psychoneuroses and most of the insanities. But in it live culture, too, and most of one's real self, good and bad; and in it personality is developed and character is formed. We are daily adding to our unconscious our most intimate and interesting experiences. How important it is to store in it only wholesome experiences and only pleasant memories—for one's unconscious is one's very self with whom one must forever live.

Psychoanalysis—how polysyllabic and ponderous—would presume to acquaint one with one's own unconscious and, in that way, with one's own self. The philosophy of psychoanalysis has lent dignity and grandeur to our conception of human behavior, and has invested the most trivial conduct with profound meaning. Psychoanalysis—mental analysis, I like better—offers a philosophy of the mind as a dynamic, powerful, over-active agency; it proffers a technic for the investigation of our immaterial attributes; the understanding of it lends zest to living, and its skillful utilization constitutes helpful therapy. Psychoanalysis looks upon conduct as the mechanization through bodily activity of mental states. Its chief purpose is to backtrack all behavior to its ultimate cause.

Sigmund Freud, may God keep him in his old age, gave us the philosophy of the unconscious—comparable in dignity and in revelation to Darwin's work in biology and to Harvey's in physiology. I fear that Freud may be unkindly treated as the result of racial hostility. But he is already numbered amongst the mighty immortals and no persecution can minimize his fame nor destroy his influence.

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THE ANNUAL MEETING

Now is the time to prepare for the annual meeting of the State Medical Society which will be held in Alexandria, April 24-26. Plans to attend this meeting, if made early, are very much more likely to be consummated than if at the last moment the decision to attend or not to attend is to be made. If patients know weeks ahead of time that at a certain definite date the doctor is to be away they are very much less likely to expect him to remain at home than they would be if suddenly announced a day or two before that he is going off for a few days. Let your clientele know definitely that you will be away the last of April for a few days and that you are going not for pleasure or fun but in order to learn so that you may make yourself a better physician.

A splendid program has been arranged which will instruct every man who attends, be he specialist or general practitioner. The scientific program is the real purpose of the meeting and has maintained a high standard for years which will be upheld this year.

In addition to the excellent mental feast that has been prepared for the attendants let it not be forgotten that there are other good reasons to participate in the annual meeting. The doctors of Alexandria are a most hospitable group, they are arranging entertainments and enjoyable activities which will give pleasure to those who go to this up-and-doing city which is centrally located and easily accessible.

There is another good reason why a man should attend this annual meeting. It gives him a few days' vacation and rest from the strain of practice; the physician will go home refreshed and rejuvenated; he will have learned not only from the scientific papers, but from personal conversation with his confreres he will be told new things not only about medicine but about the economics of the profession. The time and money spent to go to this meeting will more than recompense the doctor in resting him, reviving him and instructing him.

THE INDICTMENT OF THE AMERICAN MEDICAL PROFESSION

It should be understood that the indictment of certain officials of the American Medical Association is not only an indictment of these men but of the whole medical profession in the United States. They are merely our representatives and when the Government sees fit to find fault with the way American medicine is organized they are criticizing every individual member of the profession. Not only is that true but it is equally true that industrialists consider this indictment is really a fight against all industry in this country. Most industries are organized and arranged in very much the same way as is the American Medical Association. If the American Medical Association should be found guilty of restraining trade, or whatever the technical name may be, then nearly every industry in the United States will be in the same boat. The suit really is of tremendous importance. Rumor has it that were it not for Mr. Arnold the Government would be very glad indeed to drop the whole thing. He is apparently insistent on carrying it through and that in spite of the tremendous wave of resentment against the trial in the lay press as well as in the medical press and amongst the medical profession. It seems to be unheard of that our great organization should be indicted in a *criminal* court for something which is for the undoubted good of the American people as a whole, preserving them from incompetent practitioners and from heartless quacks.

Not only has organized medicine been unified by this action of the Government but men who are outside the fold have begun to join up with the American Medical Association in large numbers. As a matter of fact the increase in membership of the organization was larger in the last six months than at any six months in the history of the Association.

American medicine and American doctors should wield and can wield a tremendous amount of influence in the elections. Mention has been made in these editorial columns of what the doctors did in Georgia, for example. It might further be added that Senator Taft of Ohio attributes his election largely to the medical profession. He goes so far as to say he got practically every vote cast by the doctors in his state, a vote which was a protest against measures harmful to the medical profession arising in that state primarily but as well against what is being done by the Department of Justice of the United States.

If the Federal Government wishes to ruin a great profession and a wonderful organization it probably can do it. The power of the Government is so great at the present time that it might almost be called a dictatorship. However, the last elections in November have undoubtedly shown how the American people feel about being controlled by a single man or the small group frequently labeled the "brain trust." The American medical profession is prepared to fight for their rights. The Government will find a cohesive group of important citizens lined up against it who will use every effort to uphold right and to maintain justice to the American medical profession.

SULFANILAMIDE

Comment has already been made in this editorial column of the frequency with which sulfanilamide is being used in every type of infection. The popularity of the drug is astounding. It has been used for everything that even remotely suggests infection. As further indication of the widespread laboratory observations that have been made on sulfanilamide it might be said that in a recent number of the Proceedings of the Society for Experimental Biology and Medicine there were seven experimental studies of the drug published in this particular number of the journal. It might be appropriate to comment on these studies, some of which show by experimental methods that the drug is of value in certain conditions and others show that it is of little help in the treatment of other types of infections.

Kolmer and Rule[1, 2] used sulfanilamide in the treatment of experimental *Shigella dysenteriae* infection of rabbits. They found that whether the drug is given by mouth or under the skin or intravenously it was totally ineffective in the treatment of the experimental animal which was inoculated intravenously with virulent Shiga organisms. The same authors attempted to evaluate the efficacy of the drug in treating experimental trypanosomiasis in rats. Using a large number of controls and test animals they found that neither by mouth nor into the vein was the drug of any value in the treatment of trypanosomiasis of rats.

Bliss and Long[3] state that sulfanilamide has only a slight therapeutic effect in the treatment of experimental staphylococcal infections of mice. However, the new chemical compound of sulfanilamide, known as sulfapyridine, has recently been shown to have definite therapeutic effects in this type of infection. They repeated this work and found that in the untreated control death took place by the sixth day, whereas on the other hand at the end of the first week of treatment three-fourths of the mice given sulfapyridine were still alive. At the end of the second week one-third of them were surviving, whereas in those mice used further for controls by giving sulfanilamide, only 8 per cent were living. They believe, therefore, that sulfapyridine has a definite chemotherapeutic effect in staphylococcal infections in mice and that this is sufficiently positive to warrant clinical trials of this drug in severe staphylococcal infections of man.

Cooper, Gross and Lewis,[4] in their paper, state that sulfapyridine therapy of urinary tract infections which are due to *E. coli* is effective, whereas the use of this preparation in similar infections elsewhere has not received much attention. In their experiments they used both sulfanilamide and sulfapyridine and they found that the drugs were efficacious in treating the peritonitis of mice which was caused by *E. coli* and *B. proteus*, whereas it was without effect in peritonitis which was caused by *B. pyocyaneous*. The same three authors[5] attempted to evaluate sulfanilamide and sulfapyridine in the treatment of type II pneumococcal infections in mice and rats. The two drugs were tried in type II pneumococcal septicemia and type II meningococcal meningitis. The result of their study was based on survival values in 78 rats. Some of these animals were given neither of the drugs. The remainder were divided into two groups and administered the two forms of the drugs. Their results showed that sulfanilamide was slightly superior to sulfapyridine in overcoming type II pneumococcal infections of less than 100 fatal doses.

Sulfanilamide has been demonstrated by Hilles and Schmidt[6] to have definite therapeutic properties in experimental pneumococcal infections of mice. Marked curative effect was obtained in infection by 19 of the 30 types of pneumococci. These authors state furthermore that sulfapyridine has been shown by Whitby to have curative properties when given to mice infected with types II, VII and VIII pneumococci and that it prolonged life in the instance of types II, III and V infection. The experiments of Whitby suggested to Hilles and Schmidt that sulfapyridine might have a favorable effect when infection was due to pneumococcal types refractory to sulfanilamide therapy. They therefore studied experimental infections with type XXII pneumococcus, which is a type of infection not yielding to sulfanilamide therapy, and found that this new salt of sulfanilamide was very satisfactory in the treatment of this form of infection. They hold with several other authors that the drug has a definite action on the pneumococcus capsule.

Stokinger[7] studied the absorption and excretion of the new sulfanilamide compound, sulfapyridine, sometimes spoken of as M & B 693. They did this because they believe this drug will become very popular in the treatment of pneumonia and it is important to know how rapidly the drug is absorbed, how it is excreted and in what length of time. Their study is a combined animal experimentation and observation on patients. Laboratory animals did not exhibit any toxic effects, but in man nausea is extremely common and often associated with mental confusion. The drug is absorbed rapidly. It was found that in the blood it reaches its maximum concentration in about three hours. This begins to fall after six or seven hours and is practically zero after eighteen or twenty hours. The drug is detoxified by acetylation in the human being. The amount acetylated is quite constant for an individual but varies widely among human beings. However, no free drug is found as a rule twenty-four hours after the administration of the last dose and the acetylated form is eliminated in forty-eight hours.

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HOSPITAL STAFF TRANSACTIONS AND CLINICAL MEETINGS

NORTH LOUISIANA SANITARIUM

Shreveport

The regular monthly meeting of the North Louisiana staff was called to order by the president, Dr. Gowen, at 7:50 p. m. on November 22, 1938, with twenty-two members present. Minutes of the previous meeting were accepted as read. Hospital report was then read.

SCIENTIFIC PROGRAM

Dr. Mathews presided at a clinico-pathologic conference, presenting an unusual and interesting case of thrombo-angiitis obliterans. The past history revealed that in 1928 the patient had intermittent claudication and pain in his feet, which, at that time, was diagnosed by Dr. Buerger as thrombo-angiitis obliterans. The left leg had been amputated in 1935 because of a severely painful ulcer which would not heal.

The patient became sick in August, 1938, with a feeling of severe, generalized abdominal pain; there was also nausea and vomiting. Opiates gave only partial relief, and, after observation for several hours, laparotomy was done, with a preoperative diagnosis of mesenteric thrombosis. At operation multiple small hemorrhagic areas were found scattered throughout the mesentery. Following operation, the patient's symptoms abated for several days, but, on the sixth postoperative day he developed a high temperature, rapid pulse, followed by a state of shock, and on the tenth postoperative day, expired.

Autopsy revealed firm grayish-red thrombus which extended to about mid-portion of the thoracic aorta, the abdominal aorta being completely occluded by thrombus formation which extended into the iliac arteries.

Preliminary discussion was opened by Dr. Crain. The case, following the presentation of the history, was further discussed by Drs. Abramson, Herold, Fleming and Hargrove.

N. Judson Bender, M. D., Sec.

HIGHLAND SANITARIUM

Shreveport

The staff of the Highland Sanitarium held its regular monthly meeting Thursday, January 19, at 8 p. m., following dinner at 7 p. m.

SCIENTIFIC PROGRAM

Dr. W. H. Browning gave a most interesting paper on the importance of allergy in arthritis. He brought out the fact that arthritis, though one of the oldest diseases of which we have any record, is still a baffling one with reference to etiology in particular. Dr. Browning expressed the opinion that allergy plays an important role in the etiology of arthritis. The paper was discussed by Drs. R. B. DeLee, T. M. Oxford, T. P. Lloyd, and J. S. Shavin, and closed by Dr. Browning.

Dr. T. P. Lloyd next presented a short but very interesting case report of "Pleural Effusion Complicating Diabetes Mellitus." It was pointed out how, in this case, he was able to show, by x-ray study, the absence of any tubercular lesion in either lung just two weeks prior to the time the patient developed a massive left pleural effusion. It was brought out that the evidence of tuberculosis in diabetic patients is ten times as great as in non-diabetics. The paper was discussed by Dr. P. R. Gilmer who brought out particularly the fact that the prognosis of any patient with effusion, having a negative or slight lung involvement, is excellent provided he receives four months' hospital care or its equivalent. The case was further discussed by Drs. W. H. Browning and George Wolfe, and closed by Dr. Lloyd.

H. W. Boggs, M. D., Sec.

HUTCHINSON MEMORIAL CLINIC

New Orleans

Scientific Session conducted by the Department of Pediatrics, Dr. Robert A. Strong, presiding.

Calcified Hematoma Following the Injection of Whole Blood (Dr. Frank Weitz, Department of

Pediatrics): According to Kidner, in 1917, there were five theories for the formation of calcified hematomas, all of which have warm supporters and antagonists. The first theory supposes that the hemorrhage following an injury to muscle is first transformed into cartilage, which later ossifies; second, that the tumors are aberrant sesamoid bones; third, that the growths result from bits of periosteum detached and included in the muscle; fourth, that the fibrous tissue of the muscle undergoes a true metaplasia into bone; fifth, that the ossified area develops from cells disseminated from the periosteum through the hemorrhage. He modifies the latter slightly in his own theory, which is that trauma to the bone tears deep muscle fibers and at the same time causes a break in the periosteum. From both sources, blood is poured out and immediately deeper layers of periosteum respond to the stimulus of trauma by pouring forth osteoblasts. These cells are free to wander through the mass of hemorrhage and from all directions, bone growth begins.

Seeliger suggested that extravasations of blood from the subcutaneous tissue are followed by an immigration of mesenchymal elements with vascular off-shoots along the reticulum of fibrin developing within a few days from the blood effusion. The red cells lose their form and color and gradually disappear. At this stage, fibroblasts, histiocytes, plasma cells, leukocytes and a few lymphocytes are to be seen. Eosinophiles are also fairly numerous. Fibrin formation then begins and the cellular elements give place to the formation of pure connective tissue. In many cases, an extensive effusion may be entirely absorbed. Intramuscular effusions develop into connective tissue in much the same way. In some cases, lime salt deposits appear in the connective tissue lying between the disintegrating muscle fibers.

According to Aschoff, cited by Seeliger, a deposit of lime must involve: (1) an organic substance with a strong affinity for calcium; (2) a high calcium content in the blood and humors, a change in the rapidity of the blood current. The first step in calcification comprises the combination of calcium ions. New callus tissue must first absorb calcium and afterwards phosphoric acid and the corresponding carbonic acid. The second step is the accumulation of phosphorus in the calcifying or ossifying tissue. The third step depends upon the metabolism of fats or proteids. Albuminous products have a strong tendency to unite with calcium, forming complex combinations. Two-thirds of the dissolved calcium in the body is dissolved in the blood serum, while one-third exists in combined form in the albumin of the serum.

The quantity of calcium in solution depends upon the concentration of hydrogen ions and increases with any augmentation of acidity in the calcium ion content. The hydrogen ion concentration is increased wherever inflammation occurs and wherever dead tissue appears. The dead tissue has a relatively high alkalescence, while the surrounding tissue develops a high acidity. The union of calcium with dissolved or undissolved albumin increases with the augmentation of alkalescence. Since in consequence of the heightened alkalinity, the calcium content is greater in the inflamed surrounding region, the necrotic tissue is enabled to absorb lime from this region up to the saturation point. If phosphorus is present in a condition favorable for reaction and if the albumin is decomposed, the conditions requisite for calcification are afforded.

In 1930, Magliulo found in a series of cases of direct trauma to muscles that a hematic effusion always preceded the calcareous or bony formations. The calcification did not always turn into ossification and ossification may set in without being preceded by calcium deposits. He concludes that while a hematic effusion may give rise to calcifications, this does not represent the principal and absolute coefficient for the neo-formation of bone after trauma. Other factors, such as environment, extension, and degree of original trauma of muscles, amount of calcium in the blood, modifications arising from treatment, must be reckoned with.

The following year, von Brandt and Holtz showed by experimentation that local calcifications may be produced by a subcutaneous administration of irradiated ergosterin and that these calcifications were not conditioned by inflammatory processes, but the result of a specific effect of a transformation product of the ergosterin.

CASE REPORT

The patient, a colored infant, was admitted to the Hutchinson Memorial Clinic on March 15, 1938. The baby was born on February 22, 1938, and three days after birth, began to have hematemesis and melena. There were no other evidences of hemorrhage. He was brought to the Clinic where he was given 15 c. c. of whole blood (from maternal grandmother) intramuscularly in both gluteal regions. He was immediately sent into Charity Hospital and on the following day was given 70 c. c. of citrated blood intravenously. The infant bled through both the anus and mouth for about sixteen hours after admission, after which there was no further bleeding. At the age of three weeks, the baby was brought back to the Clinic, at which time the left buttock revealed a hard indurated swollen area at the site of injection of whole blood. This mass was about 3 x 3 cm. and in the center there was a small necrotic area from which a slight amount of whitish gray purulent material was exuding. (Smear revealed only a few pus cells and no organisms). The muscles of the right thigh were increased in size, hard, and somewhat tender. The skin overlying was shiny, tense and bluish black in color. The blood count at this time was as follows: Red blood cells, 3,510,000; hemoglobin 70 per cent; white blood cells, 12,000; S. L. 47 per cent; N. 49 per cent. There was a history of occasional vomiting and the baby appeared to be very irritable, crying during the length of the examination. A surgical consultant, on March 17, 1938, reported as follows: "Evidently two organizing hematomas, which may also be ossifying." X-ray examination on March 19, 1938, revealed a slight increase in density in the region of the soft tissues of right femur and left buttock, suggestions of calcified hematoma. At the suggestion of one of the staff members, the patient was hospitalized, where he was given physical therapy in the form of radiant heat over both buttocks. On March 28, 1938, the hardened areas had decreased somewhat in size and x-ray examination of May 11, 1938, reported that there was marked absorption of opaque material previously noted.

The thought came to us that the calcium content of the donor's blood might have been a contributing factor. However, the donor's blood calcium was 9.8 mgm., while the phosphorus was only 3.3 mgm. On admission, because of the precarious state of the infant, our efforts were concentrated on controlling the bleeding and no blood chemical studies of the baby's blood were made.

Adenoma of the Lung in the Newborn (Dr. Bertha Wexler): This report of an adenoma in the lung of a newborn infant, diagnosed by roentgenologic examination and confirmed by autopsy findings, is presented to add to the increasing list of verified instances of unusual lung pathology in the newborn.

A full-term male infant, weight eight pounds, was born by normal delivery on November 3, 1938. The child's color at birth was good and the routine physical examination revealed no abnormalities. On November 5, 1938, at 7:45 p. m., the intern was called to see the child and found him to be extremely dyspneic. The respiration was very irregular. The eyes were noted to recede into the sockets. The resident was called and, upon examination of the chest, fine, soft, crepitant rales were heard anteriorly and posteriorly over the left side. Oxygen was administered and caffeine sodium benzoate given. An x-ray of the chest was made immediately, which revealed evidence suggestive of a pneumonic process. On November 6, 1938, the child was cyanotic, but appeared to be breathing with greater ease. Rales were still heard throughout the left chest. On the afternoon of that day, the respiration again became very rapid and shallow. Throughout this period the child nursed fairly well, taking two ounces of similac formula at each feeding. A second x-ray of the chest was taken and evidence pointed to a possible congenital absence of the left leaf of the diaphragm. In order to rule this out, a barium meal was given and views of the gastrointestinal tract were taken. There was no opaque material noted above the level of the diaphragm. Late on the evening of November 9, the nails of both upper and lower extremities became blue and the child refused nourishment. Another x-ray of the chest was then made and extensive calcification of the lower portion of the left pleural sac was reported. On November 10, the examination of the chest revealed fine crepitant rales over the right and left chest, both anteriorly and posteriorly. Respiration became labored and the child was more cyanotic. The condition became progressively worse, and the infant expired at 5:45 p. m. At no time did the temperature curve go above 100.6° rectally.

An autopsy was performed and, grossly, the right lung was noted to be atelectatic. The left lung showed a rounded nodular tumor in the upper half of the upper lobe posteriorly. The tumor mass was very firm and nodular, having large blood vessels over its surface. There were some adhesions of the posterior surface of the tumor to the pleura. The cut surface of the tumor revealed a large circular mass, pinkish cream in color, and not appearing to be in opposition with or coming from any main bronchus. Many large blood vessels were seen within the tumor mass. Atelectasis was noted above the tumor mass in the uppermost portion of the left lung. The pleura was smooth, shining and transparent. Quite a bit of serosanguineous fluid (50 c.c.) was present in the pleural cavity.

The heart was greatly distorted and displaced, lying in the transverse position. The right side of the heart was markedly enlarged. The endocardium, valves, chordae tendineae were normal in appearance. However, there was a patent ductus arteriosus present.

On microscopic examination, the alveoli of the lungs in general were fairly aerated. Here and there were small focal collections of neutrophiles with occasional lymphocytes. Sections of the tumor growth showed large, clear spaces, which were lined by dark-staining columnar cells, the cells being supported by a loose connective tissue stroma. Section of the heart showed myofibrils to be small and infantile in character. The rest of the organs showed no abnormalities on gross or microscopic sections.

Hemoglobinuria Associated with Congenital Syphilis (Dr. R. P. Vieth): The patient, a four-year-old girl, entered the Clinic on January 6, 1939, with the chief complaints of pain in the abdomen since 1936, and frequent attacks of chills and fever associated with the passage of black urine since September, 1938.

The present illness began in 1936, with mild cramp-like pains in the umbilical region of the abdomen. These pains would come on in the morning and were never severe enough to cause the patient to go to bed. They occurred at weekly intervals. There was no associated nausea or vomiting, nor any relation to food intake. These abdominal pains have progressively increased in frequency, severity and duration; at the present time, she complains of pain on the average of several times a week.

Beginning in September, 1938, she began to have frequent attacks of chills and fever associated with the previously mentioned abdominal pains. These paroxysms of chills and fever last for about an hour and during the attack the patient is acutely ill, so that she has to go to bed. She suffers from malaise, generalized aching pains and intense thirst. Following the paroxysm, she is apparently in good health until the next attack. The interesting feature of these bouts of chills and fever is that the first specimen of urine passed immediately after the attack is very dark brownish-red or black in color. Subsequent specimens passed in the intervals between attacks are clear and of normal yellow color. There is no history of ingestion of drugs or chemicals which might have a hemolytic effect. The patient was seen by a private physician in her home town at the onset of the attacks of chills and fever, and was given medicine which the mother thinks was quinine, but there was only slight and temporary relief. At the time of the patient's first visit to the Clinic, while the student was questioning the mother, the patient very accommodatingly had a typical attack as described, followed by the passage of coffee-colored urine.

The past history of the patient is entirely negative. She was born at full term and there is no history of symptoms suggestive of syphilis. Her developmental history is also entirely normal. The mother states that she has never had any of the usual childhood diseases. Her habits are good. Her diet is that of the usual poor colored family living on a farm, although she gets a sufficient amount of milk and fresh vegetables. The systemic review is entirely negative except for the urinary abnormality. The only significant feature in the family history is that both parents are receiving antisyphilitic treatment.

A physical examination revealed a four-year-old colored girl, well developed, and moderately obese. She appeared rather lethargic, with a vacuous facial expression and poor emotional response. The temperature was 100.3° F., pulse 128, respirations 28. The only positive physical findings, in addition to the obesity, were pallor of the mucous membrane of the mouth and of the conjunctivae, an umbilical hernia, palpable liver (4 cm. below costal margin), a scanty white vaginal and urethral discharge. The spleen was not palpated. The laboratory findings were: Urine (first specimen) dark red-brown color with sediment composed of crenated and disintegrated red blood cells; specific gravity 1021; strongly positive benzidine test for occult blood; albumin plus. Other routine tests were negative. A second specimen of urine obtained in the interval between paroxysms showed a clear yellow color; specific gravity 1010; a few white blood cells; no red blood cells but a weakly positive benzidine test. All other routine tests were negative. Hematology: Red blood cells, 2,625,000; white blood cells, 11,000; hemoglobin 52 per cent; Shilling differential: Polys 54 per cent, lymphocytes 43, monos 1, eosinophils 2. No malaria parasites were found on thick blood smears. The red blood cells showed more than normal variation in size and shape. The reticulocyte count was 3 per cent. The fragility of the red cells was within normal limits, 0.36-0.32; icterus index 100. There was no evidence of sickling of red cells. The blood Wassermann and precipitin tests were strongly positive in the case of the patient and weakly positively in the parents. A blood culture was negative. Agglutinations for typhoid, undulant fever and tularemia were negative. Vaginal and urethral smears showed no gonococcal infection. X-rays of the chest and long bones showed no evidence of pathology.

At the time of the patient's first visit, on the basis of the history of chills, fever, abdominal pain and black urine, and the history of syphilis in both parents, a tentative diagnosis of paroxysmal hemoglobinuria on the basis of congenital syphilis was made, with malaria as the most likely condition to be ruled out.

There was no clinical evidence of malaria, nor were plasmodia seen in the blood smears. The following procedures were then carried out to establish a diagnosis of paroxysmal hemoglobinuria: A speciment of blood was drawn from the patient into an oxalated tube, the following mixtures being made in test tubes: (1) Patient's erythrocytes plus patient's serum; (2) patient's serum plus normal erythrocytes; (3) patient's erythrocytes plus normal serum, and (4) normal serum plus normal erythrocytes. The four test tubes were then chilled at 0° C. for seven minutes and then incubated at 37° C. for one hour. The results of this test, which is known as the Donath-Landsteiner test, were as follows: (1) Patient's serum plus patient's red blood cells—hemolysis; (2) patient's serum plus normal red blood cells—hemolysis; (3) patient's red blood cells plus normal serum—no hemolysis, and (4) normal serum plus normal red blood cells —no hemolysis. The significance of the Donath-Landsteiner test lies in the fact that it demonstrated *in vitro* the presence in the patient's serum of an autohemolysin and isohemolysin which sensitizes red cells in the cold and causes hemolysis when these sensitized cells are subsequently warmed.

We then attempted to induce artificially an attack of hemoglobinuria by chilling the patient. The patient's feet were immersed in cold water for twenty minutes, but no chill was produced while she was in the clinic. However, on her way home she began to chill and shortly thereafter passed typical dark brown urine. This test is known as the Rosenbach test. We, therefore, felt justified in making a positive diagnosis of paroxysmal hemoglobinuria on the basis of the following findings: (1) Evidence of syphilis by the strongly positive Wassermann reaction and the history of syphilis in the parents; (2) the association of spontaneous attacks of hemoglobinuria with chilling; (3) positive Rosenbach's test; (4) positive

Donath-Landsteiner test; (5) absence of hemoglobinuria between paroxysms.

Introductory Remarks on Icterus Gravis Neonatorum (Dr. Robert A. Strong): A sufficient number of studies have been made in the past decade upon which to base a fairly accurate conception of blood production from early fetal life through the period of transition, which begins when the baby takes its first breath and ends when the blood picture becomes what is generally recognized as normal. Many interesting things occur during this period. The changes which take place may proceed in accordance with what the present state of our knowledge suggests is normal, or we may encounter evidence of interruptions in this normal sequence of hematopoiesis and hemolysis for which we have been unable to discover entirely satisfactory explanation.

It seems to be quite definitely established that the production of erythrocytes is not entirely confined to the bone marrow during fetal life, because there is ample evidence that there are extramedullary centers of erythrogenic activity located throughout the reticulo-endothelial system and red cells are formed in the liver, spleen and lymphatic tissues and sometimes even in the kidney. This is evidenced by the interesting changes which occur in these centers, especially in premature babies and in the type and quantity of cells which are observed in the blood smears taken at intervals in the newborn until the normal standards are established. For example, it has been quite generally observed that the color of the blood at birth is a darker shade of red than in later infancy and childhood. This is due to the increased amount of hemoglobin as well as erythrocytes which are present in the newborn period. The hemoglobin content has ranged from 117 to 97 per cent in the first ten days of life or, expressed in grams of hemoglobin, in 100 c. c. of blood with an erythrocyte count of 5,000,000, from 18.8 to 15.4 gm. per cent. The erythrocyte count in the first ten days of life varies between 4,000,000 and 8,000,000, and in the first few days of life is usually in excess of 5,000,000. The most plausible explanation for this increase in the number of erythrocytes as well as hemoglobin is that the infant *in utero* is developing in an environment of low oxygen tension exactly as in adults who live at high altitudes. In both instances, it is necessary for the erythrocytes, the carriers of oxygen, to be present in increased numbers so that tissue respiration may be adequately maintained. After birth, when the baby acquires its own oxygen by breathing an atmosphere having a much higher oxygen tension, all of the erythrocytes above the conventional 4,000,000 or 5,000,000 become surplus and, as a consequence, are destroyed by hemolysis. This hemolytic destruction of the surplus red cells may result in the formation of bilirubin, and the jaundice which not infrequently develops is ordinarily spoken of as icterus neonatorum. The fall in hemoglobin and red cells is usually rapid in the first week or two of life, when both level off to the usual amount and number seen in the average healthy baby. However, both may continue to decline beyond this point for the first six weeks of life, when a low point is reached. When this occurs, an anemic state is reached which is spoken of as physiologic anemia of the newborn. As a rule, this anemic state lasts only a short time provided medullary hematopoiesis becomes promptly established and meets the requirements of the rapidly growing and developing infant. In premature infants, the fall in hemoglobin may be even greater, so that in what is spoken of as the anemia of prematurity, the hemoglobin may fall lower than 50.

On the other hand, several other interesting things are observed when anemia is the outstanding symptom, as evidenced by a marked decrease in the erythrocytes and, consequently, a low percentage of hemoglobin, the fundamental requisites by which we recognize anemia as in contrast to the very high erythrocyte count and hemoglobin percentage characterizing the blood of the newborn. When this anemia is accompanied by an unusual erythroblastic activity in the extramedullary organs and in the peripheral blood, the condition is spoken of as erythroblastosis fetalis. When it is accompanied by edema, splenomegaly, hepatomegaly, as well as erythroblastosis, it is called universal edema of the fetus. Finally, when all of these symptoms exist together with a severe degree of jaundice occurring at or shortly after birth accompanied by a saffron color to the amniotic fluid and vernix caseosa, we speak of it as icterus gravis neonatorum. There is a growing belief that all of these conditions are phases of one clinical entity. It has been our good fortune to have had the opportunity to see two cases during the past month, on which we have been able to make all of the observations necessary to arrive at a conclusion that we were dealing with icterus gravis neonatorum per se, and I am going to ask Dr. Marks to enumerate these observations.

Icterus Gravis Neonatorum (Dr. H. P. Marks, Department of Pediatrics): We are going to concern ourselves in this short resumé of icterus gravis neonatorum primarily with the clinical and hematologic features of this condition, both phases of which have been so well illustrated in the two cases to be presented. Dr. Schattenberg has kindly consented to discuss its pathologic manifestations later.

Nothing definite is known concerning the etiology of this disease process, although many opinions have been advanced. Equally as much confusion has arisen in regard to its pathogenesis. One group of investigators, headed by Blackfan, Diamond and Baty, believe the disease to be a disturbance of the metabolism of the hematopoietic system resulting, first, in either a failure of maturation of erythrocytes or in an overgrowth of immature forms of erythrocytes; second, in the delivery of immature nucleated erythrocytes in large numbers to the peripheral circulation; third, in the increased destruction of erythrocytes, including the nucleated forms. Parsons, Hawksley and Lightwood, on the other hand, offer convincing evidence that it is primarily a hemolytic process and that the erythroblastosis is provoked by the hemolysis.

In icterus gravis neonatorum, previous children in the family may have been stillborn or affected with janduice, anemia, or universal edema. Cases have been reported, however, occurring in otherwise normal families. With few exceptions, pregnancy has been normal, the infant born at term, and the incidence of obstetric difficulties bearing no relation to the occurrence of the disease. The placenta may be normal or enlarged, the amniotic fluid may be yellow, and the vernix caseosa golden in color. The child is often born markedly icteric. In some instances, the icterus becomes evident a few hours after birth, and in a small number of the reported cases, it has not appeared until as late as 48 hours after birth. Later, the child becomes drowsy, the respirations rapid, and subcutaneous hemorrhages or petechiae, convulsions, cyanotic and collapse attacks may develop. Unconsciousness supervenes and deepens, and death usually occurs on the fourth or fifth day. If recovery takes place, the jaundice gradually disappears, but takes three to four weeks or even longer to clear completely. The liver and spleen are always enlarged. As a rule, the feces are well colored with bile pigment, which may be in excess. Bile pigment and sometimes bile salts are found in the urine. There is a hemorrhagic tendency, and purpura, umbilical bleeding, melena, hematuria or intracranial hemorrhage may occur.

The blood picture in icterus gravis neonatorum is quite characteristic. The anemia is profound, red cell counts as low as 500,000 per cu. mm. having been reported. The anemia is of the hyperchromic type and the color index is greater than one. The number of nucleated erythrocytes often exceeds 50,000 per cu. mm. during the first few days of life. A considerable degree of polychromasia and anisocytosis is present, as are erythroblasts, normoblasts and reticulocytes. Megaloblasts may be found in the peripheral blood. A variable degree of leukocytosis is usually found, the white cells frequently numbering over 25,000 per cu. mm., especially in the early stages.

The results of different observers relative to the thrombocytes in this disease have been variable.

The icterus index is always excessively high. The indirect Van den Bergh reaction is positive, but the test may become diphasic from plugging of the bile ducts and destruction of liver cells. Generally, the fragility of the red cells to hypotonic salt solution has been found to be within normal limits. The bleeding time is sometimes considerably increased and the coagulation time slightly lengthened.

Icterus gravis neonatorum has to be differentiated from other causes of jaundice in the newborn, foremost among which are icterus neonatorum or simple physiologic jaundice, sepsis, congenital obliteration of the bile ducts, prenatal syphilis, congenital acholuric jaundice and leukemia.

CASE REPORTS

Baby R., a white female, born about one a. m. on January 13, 1939, was seen approximately 18 hours after birth. Low forceps and episiotomy had been performed, but labor was in no way difficult. The membrane had ruptured several hours before the arrival of the obstetrician, so that accurate information as to whether or not the amniotic fluid was yellow was not available. The vernix caseosa was of a distinct yellow-golden color.

This was the mother's second pregnancy, the first having resulted in a normal baby, who has been developing along normal lines. She attended the Touro Prenatal Clinic and with the exception of a slight amount of uterine bleeding on November 16, which quickly checked, her pregnancy presented no complications. Three Wassermanns gave negative results.

On physical examination, the baby was a well-developed, well-nourished white female, weighing apparently about seven pounds. She appeared quite drowsy, the usual stimuli giving rise to but little reaction. The skin was of a deep orange-red color. In several areas, the vernix was still present, and on removal with a cloth was found to have a golden-yellow color. The spleen was tremendously enlarged, extending to the iliac crest. The liver was likewise palpable just above the iliac crest. There was a slight degree of edema of the upper and lower eyelids. Reflexes were distinctly sluggish.

The child was admitted to Touro Infirmary where, on the following day, a direct transfusion of 50 c. c. of whole blood was given. Death, however, occurred suddenly six hours after the blood was given.

The laboratory work was as follows: On January 13, 1939, twelve hours before the transfusion —hemoglobin 44.2 per cent (6.8 grams); red blood cells 1,530,000; color index 1.46; mean corpuscular hemoglobin 45.3 micromicrograms, mean corpuscular hemoglobin concentration 26 per cent; white blood cells 21,250; nucleated red blood cells 65,000; P. N. 53 per cent; P. E. 2 per cent; S. L. 35 per cent; monocytes 5 per cent; myeloblasts 1 per cent; myelocytes 4 per cent; anisocytosis, poikilocytosis and polychromatophilia marked; reticulocytes 25 per cent; platelets 300,000. The fragility test was well within normal limits; icterus index 300. Shortly after the transfusion, a second count was made which varied but slightly from the above study.

The second case report is that of a colored male, newborn, who was first seen by us on January 21, 1939, approximately 48 hours after birth. Intense jaundice had been observed for the first time on the preceding day. Delivery had been spontaneous and the baby cried immediately after birth. The obstetric resident, when questioned, stated that he did not find the baby jaundiced at birth, nor was the amniotic fluid of a yellow color.

The mother had had four pregnancies before the birth of this child; the first infant dying at two weeks of age, cause unknown; the second living and well; the third dying when three days old of what the mother called yellow jaundice, and the fourth has been well since birth. The mother has attended the Prenatal Clinic at Charity Hospital for each of her pregnancies, and apparently no complications developed during any pregnancy. Her Wassermann reaction had always been negative. No member of her family or of her husband's family has ever been jaundiced as far back as she can recall.

On physical examination the baby appeared to be a well-developed and well-nourished negro male, newborn, weighing approximate 6½ pounds. The skin was intensely icteric, almost of a saffron color. The sclerae showed a similar color. Breathing was rapid and shallow. The abdomen appeared quite distended. The spleen was palpably enlarged, extending to just below the umbilicus in the midline. The liver was likewise enlarged, being palpated about four fingers' breadth below the costal margins. Blood was collected for study and for matching for transfusion. Immediately after withdrawing the blood, 15 c.c. of whole blood was injected into the gluteal muscle, the mother being used as the donor. Several hours later, an indirect transfusion of 45 c.c. of citrated blood was given. Oxygen was administered continuously, and fluids were given by hypodermoclysis. The patient expired about three hours after the transfusion.

The laboratory findings were as follows: Hemoglobin 40.3 per cent (6.2 grams); red blood cells 1,380,000; color index 1.5; mean corpuscular hemoglobin 44.8 micromicrograms; mean corpuscular hemoglobin concentration 31 per cent; icterus index 200; white blood cells 19,500; P. N. 62 per cent; P. E. 1 per cent; S. L. 32; monocytes 3; myelocytes 2 per cent; reticulocytes 8.5 per cent; platelets 200,000 cu. mm. The fragility test was well within normal limits.

Pathology of the Anemias of Infancy (Dr. H. J. Schattenberg, Department of Pathology): Under this heading three fairly distinct types may be recognized pathologically and may be classed as follows: (1) Icterus gravis neonatorum; (2) congenital anemia and (3) congenital hydrops. While these anemias may differ from a clinical standpoint, they present in common such features as anemia, hyperplastic bone marrow, nucleated red cells in the circulation and extramedullary hematopoiesis in the liver and spleen. The etiology is obscure. They occur most often in the multiparous, often after the birth of several normal children.

Icterus gravis neonatorum: The characteristic pathologic features are the presence of embryonic blood-forming centers (hemopoiesis) in the liver and spleen, anemia, jaundice and cyanosis. An important feature is a yellowish discoloration of the basal ganglia known as "kernicterus." Petechial hemorrhages are often noted in the skin, mucous and serous membranes and in the parenchymatous organs. Hematopoiesis is noted to a lesser extent in the pancreas, thymus, adrenals, lymph nodes and kidneys. Hemosiderin deposits are noted in all organs of the body, but more especially the liver and spleen. Often the liver and spleen may be enlarged to ten times their normal size. Red cell counts vary from 1-3,000,000 cells per cu. mm., of which 100,000 may be normoblasts. Reticulocytes are numerous and anisocytosis and poikilocytosis are common features. The urine contains bilirubin but no urobilinogen. Stools usually show bile pigment.

Congenital anemia: Similar to icterus gravis neonatorum, this type of anemia is also characterized by erythroblastosis, anemia and extramedullary blood forming centers in the liver and spleen. Jaundice is present in about one-half of the cases and is usually not severe. The liver and spleen are markedly enlarged. The bone marrow is red and hyperplastic. The red cell count may be as low as one million cells per cu. mm. and the anemia is of the hyperchromic type. Leukocytosis usually prevails with myelocytes in the blood films. Bleeding time, fragility of red cells and platelet counts are normal.

Congenital hydrops: This is a pathologic entity in which the infant shows presence of pleural effusions and increased amounts of fluid in the pericardial and abdominal cavities. Often there is marked edema of the placenta and when this occurs, death usually ensues, either before, during or soon after birth. Unlike the two types of anemia described above, the blood shows a severe anemia which, in this instance, is hypochromic. Large numbers of nucleated red cells and myelocytes are noted in the circulation. The liver and spleen are markedly enlarged and the thymus and lymph nodes moderately so. Embryonic blood-forming centers (extramedullary hematopoiesis) are numerous in the parenchymatous organs. These centers may be so prominent in the liver that the liver cells are compressed and obstruction of biliary radicals may occur, explaining the accompanying jaundice, at least in part. Hemosiderin deposits are noted throughout the parenchymatous organs. The bone marrow is hyperplastic.

Correlation: The extramedullary blood-forming centers in the liver and spleen are compensatory. In these peculiar anemias they persist from early embryonic life instead of disappearing normally at maturity. The icterus is at first due to excessive red cell destruction, later to overloading of liver cells with hemosiderin or pressure upon bile channels by blood-forming foci. The anemia is due to rapid destruction of red cells, failure to turn out normally-formed erythrocytes or a combination of these factors. Bleeding and petechia formation is aggravated by the severe jaundice and results especially from crowding out and destruction of megakaryocytic centers in the bone marrow following erythroblastic activity. This is followed by a marked lowering of the thrombocytic level. The hemosiderosis follows excessive red cell destruction and also altered iron metabolism.

J. T. NIX CLINIC

NEW ORLEANS

At the meeting held in February, Doctor C. E. Gorman presented the following paper:

FACE PRESENTATION
REPORT OF CASES

The presentation of this paper is to demonstrate a very rare occurrence, three face presentations occurring within eight weeks. Before citing these specific cases let us refresh ourselves regarding the percentage occurrence, the etiologic factors, the prognosis and the treatment.

Statistics and percentages derived from a study of several hundred thousand cases by Schroeder[1] show that the face presents in 0.6 per cent. The findings of other statisticians on the subject coincide with those of Schroeder. Markoe,[2] after analyzing 60,000 cases, gives a percentage of 0.48. Pinard,[3] giving a similar cross sectional study of 92,026 cases, arrived at the conclusion that face presentations occur in 0.4 per cent. Schumann,[4] in citing the instance at the Kinsington Hospital for Women, records about one in 400 cases.

These cases are divided into two types; the primary and secondary face presentations. In both the mentum is the leading pole, the head is markedly extended, and the face appears at the vulvovaginal orifice. The primary face presentation occurs very seldom. In these cases the head assumes the hyperextension prior to the onset of labor, whereas in the secondary cases this occurs after labor has started.

Let us consider the etiology of this condition. These cases must be divided into two classifications, those of maternal origin, and those occurring due to fetal factors. In multiparas and women of very lax abdominal musculature an anterior protrusion takes place. This causes a hyperextension of the head. Williams[5] gives credit to a contracted pelvis or an excessively large child as causing the greatest number of cases. A low implantation of the placenta has also been given as a prominent cause. Petitjean[6] champions this latter and purports it to be the causative factor in two-thirds of the cases. Duncan[7] thinks the greatest causative factor is a marked malposition of the uterus. This allows the back of the child to sag, thus accentuating the extension of the head and neck. A high percentage of these cases, approximately 60 per cent, occur in multiparous women. Multiparity, with its accompanying relaxed muscles of the abdomen, allows the uterus to lie obliquely. Any undue enlargement of the anterior neck, of the fetus, such as a congenital hypertrophy of the thyroid, hygroma colli, adenopathy, or edema, will prevent the flexion of the child's head. Also there is a group of extraneous causes such as abnormal size or location of the umbilical cord which prevents the proper flexion. Dolichocephaly, or an increased fronto-occipital diameter, has often been given as an etiologic factor. I rather believe that this should be classed under effect and not under cause.

In considering the prognosis we definitely feel that the fetal mortality percentage is high. This undoubtedly is due to the prolongation of labor. The mortality in these varies from 14 to 21 per cent with different authorities. The extreme hyperextension and pressure on the neck is probably responsible for edema of the medulla. It is even possible that pressure actually damages the brain, medulla, or cord. Also the possibility of subdural or cerebral hemorrhage must be kept in mind.

There have been many methods designed to convert the face into a vertex presentation. The technic is usually awkward and of little avail. The concensus of opinion rules that the fetus should be left to pursue a physiologic descent.

The three cases discussed in this paper are on record in the obstetric department of the J. T. Nix Clinic. The first of these was admitted to Hotel Dieu, July 20, the second September 2, and the third September 23, 1938. The remarkable feature of these cases is the short period in which they occurred. A short summary of each case follows:

CASE REPORTS

Case 1. Mrs. G. T. G., aged 32 years, para four, gravida five. All past pregnancies were perfectly normal during prenatal and postnatal care. Deliveries were normal full term babies. Puerperiums were uneventful. Present prenatal care was normal in every respect. Labor did not ensue at the scheduled time. Examination revealed the head not engaged. Pains began July 21, 1938, and with about four pains the cervix dilated, the membranes ruptured and the face was resting on the perineum. Remainder of delivery was normal with the face presenting.

Case 2. Mrs. C. Z., aged 37, para one, gravida three; prenatal care was normal except that she "carried" in a very low position. This produced some discomfort but no untoward symptoms. Labor began with slight irregular pains 12:30 a. m., September 2, 1938. She was admitted to Hotel

Dieu at 1:00 p. m., pains every five minutes, lasting twenty-five seconds, and with two fingers dilation. Complete dilation at 4:00 p. m., application of mid-forceps and delivery of face presentation.

Case 3. Mrs. C. G., aged 32, para two, gravida three, came into Hotel Dieu from the country at 1:00 a. m., September 23, 1938, having been in labor forty hours. She was given sedation, pains stopped and she was allowed to sleep for seven hours. The presenting face could be felt by the examining fingers, thus indicating x-rays, which were taken. It was decided that a podalic version and extraction should be performed. This was accomplished at 10:00 a. m.

These three reports represent classic cases of face presentations. They were each handled in a different manner as the situation demanded. It is of interest to note that none of these cases presented any of the fetal etiologic factors. Two presented maternal etiology in the form of being multiparous. The fetal facial expression of all three was indeed very typical. This is a rather grotesque appearance, especially if there are many bruises. The face returns to normal and the bruises disappear within a few days, resulting in a normal child.

REFERENCES

1. Williams, J. W.: Obstetrics, D. Appleton Co., 1930, pp. 257.

2. Markoe: Observations and statistics on 60,000 labors, Bull. Lying-In Hosp., N. Y., 1909. pp. 331.

3. Pinard: (Traité du palper abdominal, 2 me id, Paris 1889. pp. 32-50).

4. Schumann, E. A.: A Textbook of Obstetrics, W. B. Saunders Co., 1937, pp. 491.

5. Williams, J. W.: Obstetrics, D. Appleton Co., 1930. pp. 355.

6. Petitjean: Etude statistique concernant le cas de presentation de la face ayant lieu à la clinique. Bandelocque. These de Paris, 1904.

7. Duncan, M.: On the Production of Presentation of the Face. Mechanism of Natural and Morbid Parturition. Edinburgh, 1875. pp. 218-231.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR

March 1.	Radio Talk, Orleans Parish Medical Society, 9:15 to 9:30 a. m., WDSU. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m. Hutchinson Memorial Clinic Staff, 8 p. m. Mercy Hospital Staff, 8 p. m.
March 2.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
March 6.	ORLEANS PARISH MEDICAL SOCIETY, Board of Directors, 8 p. m. Clinico-pathologic Conference, Hotel Dieu, 8:15 p. m.
March 7.	Eye, Ear, Nose and Throat Staff, 8 p. m.
March 8.	Radio Talk, Orleans Parish Medical Society, 9:15 to 9:30 a. m., WDSU. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m. Touro Infirmary Staff, 8 p. m.
March 13.	ORLEANS PARISH MEDICAL SOCIETY, 8 p. m. Joint meeting with the New Orleans Gynecological and Obstetrical Society.
March 14.	Charity Hospital Dental Staff, 8 p. m. Eye, Ear, Nose and Throat Club, 8 p. m.
March 15.	Radio Talk, Orleans Parish Medical Society, 9:15 to 9:30 a. m., WDSU. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m. Charity Hospital Surgical Staff, 8 p. m.
March 17.	I. C. R. R. Hospital Staff, 12 noon. New Orleans Dispensary Staff, 8 p. m.
March 20.	Hotel Dieu Staff, 8 p. m.
March 21.	Charity Hospital Medical Staff, 8 p. m.
March 22.	Radio Talk, Orleans Parish Medical Society, 9:15 to 9:30 a. m., WDSU. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
March 23.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
March 27.	Regular meeting of Orleans Parish Medical Society dispensed with because of conflict with American College of Physicians meeting.
March 28.	Baptist Hospital Staff, 8 p. m.
March 29.	Radio Talk, Orleans Parish Medical Socitey, 9:15 to 9:30 a. m., WDSU. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
March 30.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m. L. S. U. Faculty Club, 8 p. m.

During February, the society held two meetings. On February 9, a joint scientific meeting with the New Orleans Graduate Medical Assembly was held. The following out-of-town guests were on the program:

Classification and Treatment of Goiter

Dr. Charles G. Heyd, New York City
Medical Jurisprudence
Dr. Paul H. Ringer, Asheville, North Carolina

At the meeting of February 27, the following program was presented:

Acute Lymphocytic Choriomeningitis (Case Presentations—Lantern Slides) Dr. C. J. Tripoli
Discussed by Drs. John H. Musser and J. O. Weilbaecher, Jr.
Recent Observations of Military Surgery in the Spanish War..........................Dr. Rudolph Matas

The following doctors were elected to membership: Active: Drs. Louis J. Bristow, Jr., R. Alec Brown, and Julius L. Wilson. Interns: Drs. Edward L. Levert, Irvin Cahen and Oran V. Prejean.

NEWS ITEMS

Drs. C. C. Bass, W. H. Harris, H. J. Schattenberg and J. R. Schenken spoke before the Society for Experimental Biology and Medicine, January 31.

Drs. Isidore Cohn, Rigney D'Aunoy, Béla Halpert, Ben R. Heninger and Michael A. Ogden were on the program of the Faculty Club of Louisiana State University Medical School.

Dr. Daniel M. Kingsley, surgeon of the S. S. Delsud, was decorated with the Order of the Crown of Yugoslavia, January 19.

The following officers were elected on the Baptist Hospital Staff: Dr. E. Z. Browne, chairman; Dr. C. L. Cox, vice-chairman; Dr. Garland Walls, secretary, and Dr. Robert F. Sharp, treasurer.

Those elected on the Hotel Dieu Staff were Dr. C. Grenes Cole, president; Dr. Lucien A. LeDoux, vice-president, and Dr. C. E. Gorman, secretary.

The following members were on the program of the Tuberculosis and Public Health Association meeting, January 24-25: Dr. William Harvey Perkins, chairman; Drs. James M. Batchelor, R. Alec Brown, Joseph A. Danna, Edmund L. Faust, A. J. Hockett, Chaille Jamison, Sydney Jacobs, Joseph A. O'Hara, Alton Ochsner, Emile Naef, I. L. Robbins, John H. Musser, Robert A. Strong, and Julius Lane Wilson.

At the meeting of the Louisiana Chapter of the National Gastroenterological Association, held January 28, cases were reviewed by Drs. P. L. Querens, J. Holmes Smith, and Herbert L. Weinberger.

On February 1, Dr. Neal Owens spoke before the Gulfcoast Medical Society, at Gulfport.

Dr. Clarence P. May addressed the Parent-Teacher Association on February 2 and the Rapides Parish Medical Society at Alexandria on February 6.

Dr. Samuel B. Nadler read a paper before the Louisiana Section of the American Chemical Society, February 10.

Drs. C. C. Bass and John H. Musser attended the annual Congress on Medical Education and Licensure, February 13-14. Dr. Bass also met with the Committee on Scientific Research of the American Medical Association, February 12, in Chicago.

The following members were on the program of the Mid-South Post-Graduate Medical Assembly at Memphis: Drs. Leon J. Menville, John H. Musser and Alton Ochsner.

Dr. Theodore A. Watters presented a paper before the Missouri-Kansas Neuropsychiatric Society, February 15-17, in Kansas City, Missouri.

At the meeting of the Louisiana Dietetic Association, February 15, Dr. Roy H. Turner presented a paper.

Dr. William Harvey Perkins attended the meeting of the executive board of the National Tuberculosis Association held in Chicago, February 11.

Dr. Hilliard E. Miller attended the meeting of the American Gynecological Club in Baltimore, February 24-25.

The following members were on the program of the New Orleans Urological Society at the meeting on February 28: Drs. A. Mattes, John G. Menville and W. A. Reed.

The following members were elected officers of the Catholic Physicians Guild of New Orleans: Dr. Daniel J. Murphy, president; Dr. George Taquino, vice-president; Dr. Edwin L. Zander, secretary; Dr. Narcisse F. Thiberge, treasurer; and on the Board, Drs. Joseph A. Danna, Edmund L. Leckert, Walter J. Otis and E. J. Richard.

Drs. C. Victor Vignes and J. O. Weilbaecher were honored by Loyola University for twenty-five years of teaching service.

The new officers of Touro Infirmary are Dr. Walter E. Levy, chairman; Dr. John A. Lanford, vice-chairman, and Dr. Herbert L. Weinberger, secretary.

Dr. Oscar Blitz has qualified as an associate member of the American College of Physicians.

TREASURER'S REPORT

Actual book balance 12-31-38	$3,798.94
January credits	2,834.77
Total Credits	$6,633.71
January expenditures	1,722.58
Actual book balance 1-31-39	$4,911.13

LIBRARIAN'S REPORT

During January, 179 volumes have been added to the Library. Of these 86 were received by binding, 76 by gift, 4 by purchase and 13 from the New Orleans Medical and Surgical Journal. The Library has loaned to physicians during January, 927 books and journals. In addition items have been loaned to students for overnight use, making a total of 2,244 for the month. This is the largest monthly circulation in the history of the Library. Members of the staff have collected material on the following subjects during the month, at the request of members of the society:

- Anatoxin
- Treatment of arsenic poisoning
- Anemias in pregnancy
- Dendritic keratitis
- Irradiation therapy of pituitary, thyroid, ovarian and adrenals glands
- Ascariasis
- Schistosomiasis
- Carcinoma of duodenum
- History of Charity Hospital

NEW BOOKS

Association of Life Insurance Presidents Proceedings, 1938.

International Clinics, v. 1-4, 1938.

American Hospital Association Transactions, v. 36-39, 1933-37.

American Surgical Association Transactions, v. 59, 1938.

Practical Medicine Series: Nervous and Mental Diseases, 1930-33.

Small, L. F.: Studies in Drug Addiction, 1938.

U. S. Children's Bureau: Proceedings of the Conference on Better Care for Mothers and Babies, 1938.

Riemann, H. A.: The Pneumonias, 1938.

Wetherbee, Winthrop, Jr.: Medicine in the Outpatient Department, 1938.

Sharp, W. B.: Practical Microbiology and Public Health, 1938.

Partridge, William: Aids to Bacteriology, 1938.

Ravitch, M. L.: Romance of Russian Medicine, 1937.

Conklin, Emilie: Doctors, I Salute! 1938.

Bacon, J. E.: Anus, Rectum and Sigmoid Colon, 1938.

Mallory, F. B.: Pathological Technique, 1938.

Ivy, R. H.: Fractures of the Jaws, 1938.

Blanchard, C. E.: Romance of Proctology, 1938.

Sobotka, Harry: Chemistry of the Sterids, 1938.

Sigerist, H. E.: Socialized Medicine in the Soviet Union, 1938.

Harrington, Milton: Biological Approach to the Problem of Abnormal Behavior, 1938.

Hassin, G. B.: Histopathology of the Peripheral and Central Nervous System, 1933.

Baker, H. J.: Diagnosis and Treatment of Behavior Problem Children, 1935.

Gilbert C. Anderson, M. D.,
Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

Louisiana State Medical Society	April 24-26, 1939	Alexandria.
American College of Physicians	March 27-31, 1939	New Orleans.

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Wednesday of every month	Baton Rouge.
East and West Feliciana	First Wednesday in June	Jackson.
Morehouse	Second Tuesday of every month	Bastrop.
Orleans	Second and fourth Monday of every month	New Orleans.
Ouachita	First Thursday of every month	Monroe.
Pointe Coupee	First Tuesday in March	
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	

SECOND DISTRICT MEDICAL SOCIETY

A regular meeting of the Second District Medical Society was held January 19 in the Colonial Country Club, at Harahan. Dr. E. P. Feucht, acting as host, entertained the members and guests at supper. Among the members present were: Drs. R. F. Sharp, J. S. George, L .O. Waguespack, L. T. Donaldson, P. A. Donaldson, J. E. Clayton, E. P. Feucht, W. H. Guillotte, J. S. Kopfler, F. S. Herrin, D. N. Silverman, A. V. Friedrichs, F. M. Hinderlang, S. L. Gill, and P. T. Landry. Guests were: Drs. Charles Bloom, L. J. Menville, C. L. Cox and Maurice Lescale.

The guest speaker of the evening was Dr. Charles Bloom, of New Orleans, who spoke at length on "Infant Food and Feeding." Discussion followed in which a number of the physicians present participated.

Dr. Joseph S. Kopfler, of Kenner, was elected delegate to the State Medical Society; Drs. L. O. Waguespack, of Vacherie, and F. S. Herrin, of Destrehan, were elected as alternates.

Applications for membership received from Drs. S. L. Gill, Hahnville; Charles F. Gelbke and Carroll F. Gelbke, of Gretna, were read. It was moved by Dr. Kopfler and seconded by Dr. Landry that these applications be accepted. The motion was carried and so ordered.

Fred. S. Herrin, M. D., Sec.

SHREVEPORT MEDICAL SOCIETY

The regular meeting of the society was called to order on January 3, 1939, by Dr. P. D. Abramson, who relinquished the chair to the president-elect Dr. R. T. Lucas. The new president made brief appropriate remarks outlining plans for his term of office. The minutes of the December meeting were read and approved with one correction.

The secretary presented communications from Dr. J. M. Gorton outlining plans for the Health Forum to be conducted by the Y. M. C. A., and from Time expressing thanks for the resolution regarding Dr. Cabot's statement. The letter stated that the resolution would be filed for "possible future publication."

The scientific program consisted of a paper given by Dr. Rowland and a case report by Dr. W. S. Kerlin. Dr. Rowland presented a very interesting, important, and well prepared paper on "Complications Following Cardiac Infarction," and indicated by statistics the frequency of these conditions. The case reported by Dr. Kerlin was that of terminal avitaminosis. Necropsy revealed no causative pathology except a markedly diseased appendix which had, according to history subsequently obtained, produced dyspeptic symptoms for several years.

His application being found in proper order Dr. D. A. Mohler was elected to membership in the society. Applications for membership were received from Dr. F. A. Baker and Dr. Gene D. Caldwell.

Under new business Dr. T. B. Tooke brought up the question of recommendations to the congressmen and senators outlining our objections to socialized medicine. He moved that the Committee on Public Health and Legislation draft suitable resolutions and mail to our representatives in Congress. The motion also urged the members to write personal letters of a similar nature. The motion was seconded by Dr. C. R. Gowen, and passed.

A resolution was introduced by Dr. J. M. Bodenheimer deploring the indictment of the A. M. A., its officials, and others, and urging full legal defense. On motion by Dr. Bobenheimer, seconded by Dr. D. A. Huckabay, the resolution was adopted.

The meeting was then adjourned, and light refreshments served by the Committee on Social Affairs.

J. E. Knighton, Jr., M. D., Sec.

OUACHITA PARISH MEDICAL SOCIETY

The regular monthly meeting was called to order February 2, 1939, at 7:30 p. m. by Dr. John Pracher, president. The minutes of the previous meeting and those of the called meeting of January 26 were read and approved.

SCIENTIFIC PROGRAM

The first paper, entitled "The Rationale of Blood Transfusion," was presented by Dr. J. W. Cummins. This was discussed by Drs. Gray, Jr., Coon, Mosely, and Pracher. The second paper on "The Toxicology of Sulfanilamide" was presented by Dr. R. M. Simonton. This was discussed by Dr. Mosely.

Dr. Hunter reported that the committee appointed to work with the Farm Security Administration had not held a meeting because no representative of the F. S. A. had contacted them. A letter from the St. Landry Parish Medical Society to the effect that that society was opposed to the Farm Security Administration program was read.

A motion was made by Dr. Gray, Sr., that, in view of the fact that the auxiliary to this society had been doing splendid work and had been cooperating so efficiently with the society, the society should take some recognition of this. He proposed that this should be in the form of an entertainment given by the society in which the auxiliary should take part. This motion was seconded by Dr. Moore and passed. The motion was then referred to the Entertainment Committee to work out the details.

L. L. Titche, M. D., Sec.

ST. MARY PARISH MEDICAL SOCIETY

A special meeting of the St. Mary Parish Medical Society was held on February 14 for the purpose of the election of officers and the appointment of delegates to the annual meeting of the Louisiana State Medical Society. Dr. F. H. Metz, of Morgan City, was elected president; Dr. T. H. Gueymard, of Morgan City, vice-president; Dr. P. S. Parrino, of Franklin, was re-elected secretary-treasurer; Dr. T. H. Gueymard was elected delegate to the State Medical Society annual meeting and Dr. P. S. Parrino was designated alternate delegate.

The subject of admissions to the charity hospitals of Louisiana was discussed and a committee was appointed to pass on all admissions of St. Mary Parish residents to the Lafayette Charity Hospitals. It was the general opinion of the group that, whereas an occasional patient who could pay private fees is admitted to a charity hospital, in general, these institutions admit only the medically indigent. It was the opinion of some of the members of the society that the rules for admission to the hospitals are somewhat too strict and that some patients who are not eligible for admission to the hospitals are still unable to pay the prevalent rates in private hospitals. It was suggested that the universal adoption of the hospital insurance plan now in operation in several localities would bridge this gap.

The medical society meeting was held immediately following the fourth postgraduate session in obstetrics. These postgraduate sessions were conducted by R. E. Arnell, Professor of Obstetrics, L. S. U. School of Medicine, New Orleans. Lectures were given by Doctors Arnell, Fertita, and Stadiem, all of the L. S. U. staff. The subject of the lectures was "Hemorrhage During Pregnancy and Labor and Its Treatment." It was pointed out that a great many women die during childbirth from this cause. In discussing the maternal mortality rate in the United States, Dr. Arnell stated that the difference between the American rates and those of European countries has been greatly exaggerated. He said that our rates appear higher because our statistics are much more complete than those of European countries and that the difference in rate is more apparent than real. However, he stated that we could save three-fourths of all the mothers who die in childbirth.

Paul S. Parrino, M. D., Sec.

BI-PARISH MEDICAL SOCIETY

The Bi-Parish Medical Society was called to order on February 1, 1939, in the East Louisiana State Hospital at Jackson. Minutes of previous meeting were read and adopted.

Dr. Miller read resolutions, as follows, relative to the death of Dr. J. B. Sewell of Saint Francisville, Louisiana.

Whereas, on November 30, 1938, one of our most faithful and cherished members, Dr. John B. Sewell, passed on to that Haven of Refuge reserved by the "Great Physician" for all of his humbles confreres; and

Whereas, Dr. Sewell labored long and diligently, not only in combating disease, but in the interest of organized medicine; and

Whereas, for many years, overcoming all obstacles, he ministered to rich and poor alike, endearing himself in the hearts of all;

Therefore, be it *Resolved*, That the East and West Feliciana Bi-Parish Medical Society express to his bereaved widow and family our heartfelt sympathy and assure them that we, too, deeply feel this loss.

Be it further *Resolved*, That a copy of these resolutions be indelibly written into our minutes and a copy sent to the New Orleans Medical and Surgical Journal.

On motion resolutions were adopted as read. A motion was made that, at our next meeting, we discuss the resolution relative to the number of yearly meetings; that there be one paper at each meeting and that the members be informed of the essayist's subject, so that they may be prepared to discuss the paper more intelligently.

Scientific program consisted of the presentation of five cases of paresis by Dr. A. D. Long. Dr. Long presented these cases in a most interesting way; they were freely discussed by members present. Dr. E. M. Robards read a most interesting and instructive paper on "Involution of Melancholia and Depressive Maniac State." Dr. Robard's paper was favorably received and discussed by members present. A vote of thanks was extended to Drs. Long and Robards for the masterly way in which they presented these scientific subjects.

The next meeting will be held the first Wednesday in June, at 7:30 p. m.

E. M. Toler, M. D., Sec.

TANGIPAHOA PARISH MEDICAL SOCIETY

There was a regular meeting of the Tangipahoa Parish Medical Society on January 6, 1939, at the Hammond City Hall, with the following members present: Drs. Lewis, Smith, McClendon, Kevlin, Brent, Gates, Thames, Corso, Alessi, Ricks, W. T. Newman, and Wiginton.

Drs. Charles Bloom, Connely and DeLaureal gave very interesting talks on different phases of the common cold.

Following the program officers for the year 1939 were elected: Drs. V. J. Gautreau, president; W. T. Newman, vice-president; J. DeLoach Thames, secretary-treasurer; R. F. Gates, delegate; L. L. Ricks, alternate.

J. DeLoach Thames, M. D., Sec.

CONCORDIA-CATAHOULA BI-PARISH MEDICAL SOCIETY

At a recent meeting of the Concordia-Catahoula Bi-Parish Medical Society, held January 12, the following offficers were elected for the coming year: Drs. E. C. Ferguson, Clayton, president and delegate; N. L. Sebastian, Ferriday, vice-president; John Schreiber, Vidalia, secretary-treasurer and alternate.

John Schreiber, M. D., Sec.

NATCHITOCHES PARISH MEDICAL SOCIETY

OFFICERS, 1939

President: Dr. J. B. Pratt, Natchitoches.
Vice-President: Dr. Joseph Bath, Natchitoches.
Secretary-Treasurer: Dr. W. W. Knipmeyer, Natchitoches.
Delegate: Dr. R. S. Roy, Natchitoches.
Alternate: Dr. W. H. Pierson, Natchitoches.

THIRD DISTRICT MEDICAL SOCIETY

OFFICERS, 1939

President: Dr. H. Allen King, New Iberia.
Vice-President: Dr. P. H. Fleming, St. Martinville.
Secretary-Treasurer: Dr. R. S. Hernandez, Duson.
Delegate: Dr. L. O. Clark, Lafayette.
Alternate: Dr. O. P. Daly, Lafayette.

NEW ORLEANS GASTROENTEROLOGICAL ASSOCIATION

The Louisiana Chapter of the National Gastroenterological Association held its monthly meeting Thursday, January 26, 1939, at the Louisiana State University Medical Center. An interesting program was presented: Dr. J. Holmes Smith described the case of a young woman with a family history of tuberculosis, who had a recurring series of fever; all findings were negative in spite of a complete and intensive study. Finally her serum agglutinated B. dysenteriae in a high dilution. Disappearance of all symptoms followed after administration of dysentery vaccine intradermally in one tenth cubic-centimeter dosage.

A convalescing case of tularemia was presented by Dr. Querens especially to demonstrate the satisfactory results obtained by the application of sulfanilamide powder to the original lesion in addition to oral administration.

Dr. Weinberger reviewed a case of an unusual glandular carcinoma of the duodenum, which was much benefited temporarily by gastroenterostomy. Dr. Ochs reviewed the literature of gastroscopy.

Dr. Levin presided and announced that the Chapter will be the guest of the Marine Hospital Staff in February.

The Louisiana Chapter of the National Gastroenterological Association entertained at dinner, February 5, in honor of Dr. and Mrs. Chester Jones of Boston. Other members and guests included: Dr. and Mrs. A. L. Levin, Dr. and Mrs. John H. Musser, Dr. and Mrs. Donovan Browne, Dr. and Mrs. Gilbert Anderson, Dr. and Mrs. J. M. Davidson, Dr. and Mrs. P. L. Querens, Dr. and Mrs. Julius Isaacson, Dr. and Mrs. Geo. Fasting, Dr. and Mrs. Maxime Perret, Dr. and Mrs. Gordon McHardy, Dr. and Mrs. Alton Ochsner, Dr. and Mrs. Dan Silverman, Dr. and Mrs. Morris Shushan, Dr. and Mrs. Herbert Weinberger, Dr. and Mrs. Lehmann, and Dr. and Mrs. Dakin of Cody, Wyoming.

After dinner discussions of a few subjects followed introductions by Dr. Musser, who acted as Master of Ceremonies.

FACULTY CLUB LOUISIANA STATE UNIVERSITY SCHOOL OF MEDICINE

At the January meeting of the Faculty Club Dr. Béla Halpert read a paper, written in collaboration with Drs. Rigney D'Aunoy and M. A. Ogden, entitled "Carcinoma of the Pancreas; an Analysis of 40 Necropsies." Forty cases of primary carcinoma of the pancreas were found among 6,050 necropsies at the Charity Hospital of Louisiana at New Orleans on persons over one year of age. Males and females were represented in the proportion of 7:1, and 23 patients were over 60 years of age. The average duration of illness was four and a half months. Thirty-one neoplasms were situated in the head and nine in the tail of the pancreas, and all were columnar cell carcinoma. The carcinoma primary in the head of the pancreas readily invaded the duodenum, and that primary in the tail spread over the peritoneum. Metastases were observed in the liver in 25 of the 40 cases.

Dr. A. G. Eaton read a paper entitled "The Basal Metabolic Rate of Normal Individuals in New Orleans." The basal metabolic rates of 98 women and 62 men in New Orleans were compared with four commonly used standards, and found to be lower than any of them. It was therefore proposed to employ a corrective factor of minus 10 per cent to all values of the Aub and DuBois standards, or minus 11 per cent for men and minus 7 per cent for women to the recent Mayo Foundation standards. These corrections were shown to be valid statistically. Dr. Eaton suggested, tentatively, since his data were not large enough to prove it statistically, that the difference between men and women in New Orleans might be due to a lessened desire on the part of men for strenuous exercise in warm climates, whereas only a small proportion of women are very athletic in any climate. He also discussed the possible effect of the diet usually eaten in this city on the basal metabolic rate. There is a generally lowered dietary here, which it seems reasonable to regard as part of a generalized reaction to a warm climate, with the lower metabolic rate the result of the generalized reaction. Whatever the cause, he concluded, the lowered basal heat production lessens the strain on the heat-eliminating mechanism and makes life more comfortable in a subtropical climate. The mechanism by which this adaptation is brought about is as yet obscure. Dr. Eaton considers that the corrections which he proposes are probably applicable to much of the deep South.

Dr. B. R. Heninger reported a case of arteriovenous fistula which differed from other reported cases in the following respects: The duration of the fistula, without knowledge of the patient, for a period of 24 years, and the absence of any cardiovascular symptoms during this long interval; an associated auricular fibrillation; the sudden onset of pending heart failure, without any apparent reason; the discovery of the fistula, which had followed a bullet wound, during the search for the cause of the cardiovascular symptoms; evidence of Branham's syndrome after sinus rhythm was established, prior to surgical correction; complete recovery after surgical correction of the fistula. The patient has returned to his work as bridge tender, and examination at intervals since the operation has shown no evidence of any cardiac disease. The size of the heart is apparently normal.

F. F. Boyce, M. D., Sec.

"Beaumont and St. Martin" is the first of six large paintings in oil memorializing "Pioneers of American Medicine" which artist Dean Cornwell will complete in the next few years. Others in the series are: Dr. Oliver Wendell Holmes, Dr. Ephraim McDowell, Dr. Crawford W. Long, Dr. William T. G. Morton, and Major Walter Reed, and one woman, Dorothea Lynde Dix who, while not a physician, stimulated physicians to study insanity and feeblemindedness.

Arrangements to supply physicians with free, full color reproductions of "Beaumont and St. Martin" without advertising, and suitable for framing, have been made with the owners, John Wyeth & Brother, 1118 Washington Street, Philadelphia.

TUBERCULOSIS AND PUBLIC HEALTH ASSOCIATION

The Tuberculosis and Public Health Association of Louisiana held a very successful meeting in New Orleans, which ran from Tuesday evening through Wednesday night. A most interesting symposium was presented with five minute speakers on "Next Steps in Tuberculosis Control."

The same officers were re-elected for the ensuing year as served last year. A decided innovation will be that for the first time a meeting will be held out of New Orleans. The sixteenth annual meeting will be held in Monroe.

AMERICAN BOARD OF INTERNAL MEDICINE

Part 2, the practical division of the examination for candidates applying for certification by the American Board of Internal Medicine, will be held in New Orleans, March 25 and 26. Candidates who have qualified for Part 2 must have passed the first or written division of the examination.

NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

The Graduate Medical Assembly had completed on February 9 their third annual meeting. This was the most successful meeting that has yet been held, there being over 900 registrants. The group of speakers excelled themselves in the number and in the general excellency of their presentations.

SAMUEL D. GROSS PRIZE

Essays to be entered in the competition must be written by a single author in the English language and should be sent to the Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 19 S. 22d Street, Philadelphia, on or before January 1, 1940. Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, containing the name and address of the writer. For further information, apply at the office of the Journal.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

Application for admission to the Group A, May 1939, Board examinations must be filed in the secretary's office not later than March 15, 1939.

The general oral, clinical and pathologic examinations for all candidates, Part II Examinations (Group A and B), will be conducted by the entire Board, meeting in St. Louis, Missouri, on May 15 and 16, 1939.

CHILD HEALTH DAY

May Day again this year will be Child Health Day, at which time it is hoped that special emphasis will be placed on nutrition. The slogan of Child Health Day is "The Health of the Child Is the Power of the Nation."

State programs may be obtained from the State Department of Health according to a notice sent from the Children's Bureau at Washington, D. C.

AMERICAN ASSOCIATION FOR THE STUDY OF GOITER

The American Association for the Study of Goiter again offers the Van Meter Prize Award of three hundred dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award wil be made at the annual meeting of the Association which will be held in Cincinnati, Ohio, on May 22-24, 1939, providing essays of sufficient merit are presented in competition.

VACANCIES

There is a very attractive opening for a general practitioner in Bay Minette, Alabama, which is located 40 miles east of Mobile, in Baldwin County, one of the outstanding agricultural centers in the state. Suitable offices will be furnished by a very modern drug store, free of cost. In addition to the hospitals of Mobile, there is a hospital at Atmore, located 20 miles north of Bay Minette. This looks like an exceptional opportunity. If anyone is interested, further information can be obtained by phoning Magnolia 2741, Extension 37, New Orleans, or by writing to the Department of Pediatrics, Tulane School of Medicine, 1430 Tulane Avenue, New Orleans.

There is an excellent opening for an eye, ear, nose and throat man in McAlester, Okla. Further information may be secured from the office of the Journal.

WANTED

COPIES OF THE JANUARY, 1939, ISSUE OF THE JOURNAL! Phone Raymond 6361 if you have one. We will be glad to call for it.

INFECTIOUS DISEASES IN LOUISIANA

Dr. J. A. O'Hara, epidemiologist for the State of Louisiana, has furnished us with the weekly morbidity reports for the state, which contain the following summarized information: For the second week of the year, which ended January 14, of the diseases which occurred in numbers greater than ten, syphilis as is the custom was by far the most frequent, 107 cases being listed. This was followed by 61 cases of measles, 58 of pneumonia, 36 of influenza, 33 of pulmonary tuberculosis, 22 of diphtheria, 16 of cancer, 15 of scarlet fever, and 10 each of chickenpox and hookworm. Of the rare diseases, a case of smallpox was discovered in Natchitoches Parish; two cases of typhus fever were listed, one from Washington and one from Orleans; a case of undulant fever was listed from Lafourche and one from Orleans. The next week, which ended January 21, was characterized by a slight increase in the number of cases of syphilis, 166 cases making their appearance in the epidemiologic report. The following diseases, in order of their frequency, appeared: Eighty-five cases of measles, 43 of pneumonia, 34 each of pulmonary tuberculosis and gonorrhea, 26 of cancer, 21 of scarlet fever, 17 of chickenpox, 16 of diphtheria, and 12 of influenza. This week a patient with typhus fever was discovered in Caddo Parish; four cases of tularemia were reported from Orleans and one from Madison. A single instance of undulant fever was listed from Orleans Parish. For the week ending January 28, there was a spectacular and phenomenal increase in the number of cases of syphilis and measles. Of the former, 350 new cases were listed and of the latter 191. Of the other diseases occurring in double figures, the report included 35 cases of diphtheria, 33 of pneumonia, 28 of pulmonary tuberculosis, 23 of typhoid fever, 16 scarlet fever, 15 of cancer and 12 each of smallpox and hookworm. There was quite a surprising increase in the number of cases of typhoid fever. However, no one parish had more than three cases; four were listed from Orleans, but these were all imported cases. Poliomyelitis made its appearance for the first time in some weeks, with two cases from East Feliciana and one from Calcasieu. There were two cases of tularemia reported in West Baton Rouge. For the week which came to an end February 4, syphilis was about five times more frequent than the five-year average for the fifth week in the year; 330 cases were tabulated. There were also 95 cases of measles, 43 of pneumonia, 29 of scarlet fever, 22 of pulmonary tuberculosis, 21 of gonorrhea, 17 of cancer, 12 of chickenpox and 10 of influenza. Typhoid fever cases had diminished to nine this week. Of the rare contagious and infectious diseases it might be said that a case of smallpox was listed this week from Natchitoches. There was reported a case of typhus fever in East Baton Rouge, one case each of poliomyelitis and undulant fever in Orleans, and five cases of tularemia originated in Acadia, Ascension (2), Caddo and St. James.

HEALTH OF NEW ORLEANS

The Department of Commerce, Bureau of the Census, reports that for the week which came to an end January 7, the first week of the new year, 162 people died in the City of New Orleans, of whom 109 were white and 53 negro. Seventeen of the deaths were in children under one year of age, of whom 10 were negro. During the second week, the number of deaths remained almost stationary: There were seven less in the white race and nine more in the negro, for a total of 164. Thirteen of these deaths occurred in infants, six white and seven negro. For the next week, which came to a close January 21, there was some increase, not notable but still distinct, in the number of deaths in the city. One hundred and seventy-seven occurred, divided 115 white and 62 negro. Of the 12 deaths in children, nine were white and three negro. There was a recession in the number of deaths during the week ending January 28, the white showing 21 less and the negro four less than the previous week. Total deaths for this week were 152, of which 12 deaths were in infants, practically all of them white children, a ratio of 10 to two.

WILLIAM HENRY ROBIN

(1869-1939)

The many friends of Dr. William H. Robin, for many years superintendent of the City Board of Health in New Orleans, were saddened by his death on February ninth. Doctor Robin had a heart attack which culminated in his death, aged sixty-nine, after a brief illness of two weeks. In addition to his many years as superintendent of the City Board of Health, he was a member of the Board of Directors of the City Board of Health, at one time secretary of the Board, and a city councilman.

WOMAN'S AUXILIARY

Louisiana State Medical Society

President—Mrs. Frederick G. Ellis, Shreveport.

President-elect — Mrs. S. M. Blackshear, New Orleans.

First Vice-President—Mrs. C. A. Martin, Welsh.

Second Vice-President — Mrs. A. G. McHenry, Monroe.

Third Vice-President — Mrs. D. C. McBride, Alexandria.

Fourth Vice-President—Mrs. A. F. Hebert, New Orleans.

Treasurer—Mrs. O. C. Rigby, Shreveport.

Recording Secretary—Mrs. D. T. Milam, Monroe.

Parliamentarian—Mrs. A. A. Herold, Shreveport.

Corresponding Secretary—Mrs. C. B. Erickson, Shreveport.

Historian—Mrs. W. P. Gardiner, New Orleans.

Mrs. Arthur A. Herold of Shreveport, Chairman of Legislation in the Woman's Auxiliary to the American Medical Association, wrote the following most enlightening article for the National News Letter, and with her permission we reprint it here:

SOCIALIZED MEDICINE

Never before in the history of medicine has the medical profession been so much in the limelight and never before has it been so important that we be cognizant of the situation with which we are faced. Time presses hard; we are confronted with a condition and not a theory. We, as doctors' wives, must give our time to an intensive study of these problems that are confronting us for then we shall not only be able to combat much of the unfair propaganda that is being circulated about the medical profession, but we shall also broaden our vision and stimulate our interest in public welfare until we shall become vital factors in the shaping of the lives in our respective communities.

Ever since the report of the Committee on the Cost of Medical Care was issued in 1932, much thought has been given to the consideration of this problem in the United States. It was in 1936, however, that the campaign for some radical changes in medical practice began to take on a more definite form. About a year later, in October 1937, Miss Josephine Roche, the Treasury Department's secretary for health, made an address before a special session of the American Public Health Association, entitled "Medical Care As a Public Health Function." In effect, she proposed that individual medical care become a function of health departments. Then, in February 1938, the Interdepartmental Committee released a report which was designed to show the deficiencies in medical care, but none of its efficiencies. Finally the climax was reached in July 1938, when the proposals of the Interdepartmental Committee were submitted to the Health Conference at Washington. This was the reason for the call of a Special Session of the House of Delegates of the American Medical Association (the third Special Session in eighty-nine years).

At this session the Board of Trustees presented the five chief proposals of the program of the National Health Conference. It was said that no formal action would be taken by the conference. Nevertheless, responsible representatives of the government have indicated that these proposals would, in some way, form the basis of the legislation to be submitted to the Congress of the United States when it next meets.

These proposals briefly stated are:	The action taken by House of Delegates:
1. Expansion of Public Health Service.	1. Recommends the establishment of a federal department of health, with a secretary who shall be a doctor of medicine and a member of the President's cabinet.
2. Expansion of hospital facilities.	2. Favors the expansion of general hospital facilities where need exists. The hospital situation is such that there is, at present, greater need for use of existing hospital facilities than for additional hospitals.
3. Medical care for medically needy.	3. Advocates recognition of the principle that the complete medical care of the indigent is a responsibility of the community, medical and allied professions, and that such care should be organized by local government units and supported by tax funds.
4. A general program of medical care.	4. Approves the principle of hospital service insurance which is being widely adopted throughout the country. A study of the situation indicates that health needs are not identical in different localities, but usually depend on local conditions and, therefore, are primarily local problems. Believes it is practical to develop cash indemnity insurance plan to cover, in whole or in part, the cost of emergency or prolonged illness. Agencies set up to provide such insurances should comply with state statutes and regulations to insure their soundness and financial responsibility and have the approval of the county and state medical societies under which they operate. Not willing to foster any system of compulsory health insurance for a complicated bureaucratic system has no place in a democratic state.
5. A program for compulsory sickness insurance, covering entire population of the United States, which means insurance against loss of wages during sickness.	5. Endorses this principles, as it has distinct influence toward recovery and tends to reduce permanent disability.

To facilitate the accomplishment of these objectives, the House of Delegates appointed a committee to confer and consult with the proper federal representatives relative to the proposed National Health Program. Please read the complete discussion in Proceedings of The Special Session of House of Delegates, published in Journal of the American Medical Association, September 24, 1938.

It is not expected that the next Congress will pass all five of the proposals of the National Health Conference. However, a plan is to be submitted, which its proponents hope will, sometime in the next few years, result in the adoption by Congress of the entire National Health Program. Our auxiliary members, therefore, have ample time to study these plans and become conversant with them. Read your husband's medical journal and all periodicals that have any articles on medical economics, but I believe that the suggestion of Dr. Abell and of Mrs. Kech is the best: namely, "Organization in all county auxiliaries of study groups, to be concerned with the dissemination of accurate knowledge concerning the harmful effects of present social and economic movements on the practice of medicine." If it is not practicable to have a study group, then devote a part of each of the programs of your monthly meeting to the study of this subject—legislation. The American Medical Association has much material that it will gladly send to you upon request. I have sent to each State Chairman of Legislation a little pamphlet, entitled, "On the Witness Stand," and I have more of these on hand; if you need additional copies please write me and I shall send them to you. In the Woman's Auxiliary Section of the Kentucky Medical Journal, you will find some valuable suggestions. Study at one meeting the failure that "socialized medicine" has proved to be in Germany, England, and many other countries.

Another good suggestion on how to educate ourselves comes from the Regional Chairman of Legislation of the Western District, Mrs. H. E. Rhodehamel who says, "Start at once to make a file of newspaper clippings, magazine articles, and pamphlets being distributed to the public through various organizations, so-called foundations. You will soon have a host of facts which will enable you to refute many misstatements. Your medical men will appreciate having access to such a file when they are invited to talk before lay organizations or to supply material."

Now, I should like to tell you about the legislative work some of the auxiliaries are doing. When I received the request to write this article for the News Letter, I sent out forty-one postal cards to various legislative chairmen and to state presidents, asking each for information regarding the legislative work her auxiliary was doing. I have already received twelve replies. I shall try to tell you briefly about this work in these state auxiliaries.

In Alabama, members are informing themselves on matters pertaining to socialized medicine and are speaking before lay groups on this subject. Arkansas has a five-point program, one point of which is to cooperate with the medical society in helping to educate the people to realize the dangers of socialized or state medicine. The California Auxiliary made it possible for men to speak before women's clubs, helping defeat the Humane Pound Law. The Illinois Auxiliary studies socialized medicine at each meeting. It held a Legislative Day meeting in October. The Missouri Auxiliary slogan is "Organized Intelligence." Its State Bulletin, issued quarterly, suggests subjects to be studied, socialized medicine one of them. New York has sixteen county legislative groups. Work is based primarily on the legislative program of the New York State Medical Society. The auxiliary recently assisted the medical society in the passage of two important bills. The Pennsylvania State Chairman of Legislation was asked by the Chairman of Legislation of the State Medical Society to visit every auxiliary in the state and to organize a Legislative Committee. She has promised to visit forty-eight counties in Pennsylvania. The Oklahoma Auxiliary requested that the candidates for the state Senate and House of Representatives give their views on socialized medicine. Information, thus secured, was reported to auxiliary members. In Oregon, the State Program Chairman has emphasized to county auxiliaries the importance of studying socialized medicine. At the last session of the State Legislature, members helped in having the Basic Science Bill passed. All county auxiliaries in Tennessee have one program of the year devoted to the study of socialized medicine and the State Chairman of Legislation keeps in close touch with all activities of the State Legislature. The Wisconsin Auxiliary held an open meeting on "socialized medicine," with a doctor as speaker. This auxiliary has requested that every member read the report of the National Health Conference in the Journal of the American Medical Association for July 30, 1938 and August 6, 1938; also, other magazines pertaining to this subject. The Legislative Committee of the Washington State Auxiliary urges that its members be informed on all legislative measures. A poll of the members shows 100 per cent registered voters and 100 per cent voting.

I am pleased to report, in this summary, the worthwhile work that some of our state auxiliaries are doing in legislation. I know that many of the auxiliaries are doing work of equal importance and, at a later time, I shall try to report it to you.

May I leave this thought with you before I bid you goodbye. Please canvass your auxiliary members; request every one of them to vote, in order that our National Auxiliary can say, as the Washington State Auxiliary has said: "Our members are 100 per cent registered voters and 100 per cent voting."

RAPIDES PARISH

The Woman's Auxiliary to the Rapides Parish Medical Society was organized November 12, 1937 with 27 charter members. During the first year, under the skillful guidance of Mrs. H. Aubrey White, president, we grew in friendship and fellowship, and have now progressed to 39 members.

Doctor's Day was observed on March 30, 1938 with a Coffee Party at Baptist Hospital.

The second fiscal year got off in a big way under the capable leadership of Mrs. H. O. Barker, our new president. At the first meeting we had the pleasure of hearing Mrs. F. G. Ellis, state president, give a very inspiring talk on the year's work.

The first big feat of this year was to sponsor a movement for a respirator, or iron lung. Within less than a month one was presented to the Rapides Parish Medical Society by one of our civic-minded citizens, Mr. Maurice J. Weiss, and his partner Mr. Sam Bonart of New Orleans.

Our thoughts and efforts are now directed toward the state convention. We hope to have a large attendance, and are looking forward to meeting personally each and every doctor's wife. Don't disappoint us!

Mrs. P. F. Murphy,
Press and Publicity Chairman.

CALCASIEU PARISH

The Woman's Auxiliary to the Calcasieu Parish Medical Society held a luncheon meeting at the Majestic Hotel Friday, January 20, 1939. Mrs. Walter Moss, president, presided. Plans were made to contribute twenty-five dollars to the doctors' new library, which is located at St. Patrick's Hospital.

Mrs. L. L. DiGiglia,
Press and Publicity Chairman.

OUACHITA PARISH

Mrs. Clifford Johnson, president of the Women's Auxiliary to the Ouachita Parish Medical Society, presided over the luncheon table at the Lotus Club for the February meeting.

Mrs. E. C. Gibson, guest speaker, talked in an illuminating manner on the subject of "Correct Application of First Aid to the Injured." Mrs. H. Rogers read several helpful and interesting articles from Hygeia and Mrs. DeWitt Milam talked on a subject of interest to all members. Mrs. Milam's subject was "Dogs and Their Aid to the Medical Profession."

Mrs. R. W. O'Donnell,
Press and Publicity Chairman.

ST. MARY PARISH

The St. Mary Parish Auxiliary meets only twice a year. The February meeting was held in the home of Mrs. F. Harold Metz in Morgan City. Mrs. J. T. Prosser discussed "Know Thyself," an article from a recent issue of "Hygeia." Another article was read by Mrs. P. S. Parrino, "Radium Hounds," which was very amusing and interesting.

A social hour followed the business meeting.

Mrs. F. Harold Metz,
Press and Publicity Chairman.

Respectfully submitted,
Mrs. Robert T. Lucas,
Press and Publicity Chairman.

BOOK REVIEWS

Socialized Medicine in the Soviet Union: By Henry E. Sigerist, M. D. New York, W. W. Norton & Company, 1937. Pp. 378. Price $3.50.

This book should accurately portray medical conditions as they exist in Russia today for the author is well informed on Soviet medicine. He has approached the problem of Soviet medicine as an historian from the perspective of history, studying and analyzing it as an historical phenomenon. He has reviewed the background of Soviet medicine, discussing its underlying philosophy, the revolution and the new social order. The principles of Soviet medicine, their implications and significance in the history of general medicine, are discussed in detail.

As practiced in this country today medicine is a service that is purchased by the patient and sold by the physician under a competitive system. In this country the fight against disease is led by a multitude of staffs such as the individual physician, philanthropic or charitable public institutions and public health agencies, whereas, under socialized medicine the physician is a salaried man paid by the state. It seems to me that the following four points represent the most characteristic features of the Soviet health system: (1) Medical service is free and therefore available to all; (2) the prevention of disease is in the foreground of all health activities; (3) all activities are directed by central bodies, the Peoples' Commissariats of Health, with the result that (4) health can be planned on a large scale.

Medical service is free in the Soviet Union and is regulated as are the public schools in this country. All money, therefore, goes from the state to the population and back to the state which redistributes it every year. It would be impossible to relate all the achievements of Russian medicine under this régime. Everyone agrees that the Russian public health system is one of the most notable achievements of the Soviet state. The studies of Brinkhonenko on the transfusion of blood, of Velikanov on the serotherapy of gas gangrene and food poisoning and, Filatov's method of transplantation of the cornea are important discoveries.

This is much more than "just another book" dealing with medicine as practiced in the Soviet Union today. It is a well written, clear, authoritative treatise concerning the historic, sociologic and medical aspects of Russia today. The importance of this book is realized by the statement of this medical historian: "The future of medicine will largely depend upon what will be done in the United States and in the Soviet Union." This book is not only of interest to physicians but to all of those concerned with the revolutionary movement sweeping the Eastern world.

WARREN HÉBERT, M. D.

Chemistry of the Sterids: By Harry Sobotka. Baltimore, Williams & Wilkins Co., 1938. Pp. 634. Price $8.50.

This volume has been written by a man whose interest and contributions in the field of sterid chemistry and physiology lend special significance to the work. The book is divided into nine chapters dealing with the chemical reactions involving synthesis, proof of structure and chemical properties of a tremendous number of highly complex organic compounds. There is an admirable effort on the part of the author to correlate the chemistry of vitamins, hormones, cardiac glucosides and carcinogenic agents with the recognition that they are derivatives of cyclo-penteno-phenanthrene compounds. The chemical behavior of these substances together with the pertinent information on the sterols and bile acids are admirably treated. There is an appendent classified catalog of the sterids and their derivatives which is one of the most valuable reference sources on this topic to be found in the literature. Because of the complexity of the subject matter, the book will be of greatest value to those who are primarily interested in some one of the allied physiologic and chemical fields. The book is a valuable addition to any library.

SAMUEL B. NADLER, M. D.

Doctors, I Salute! By Emilie Conklin. Winona Lake, Indiana, Light and Life Press, 1938. Pp. 92. Price $1.50.

This is a series of poems reprinted, for the most part, from a group of newspapers in the East. The poems range from the sublime to the facetious. Some of them will bring tears to the eyes; others a smile to lips. Each poem has as its theme something with which the doctor comes daily in contact.

The physician will enjoy reading these poems, and the book would make a very nice addition to the physician's waiting room.

J. H. MUSSER, M. D.

The Romance of Russian Medicine: By Michael L. Ravitch, M. D. New York, Liveright Publishing Corporation, 1937. Pp. 352. Price $3.00.

The author related the historic sequence in the development of Russian medicine. The first era, which is known as popular medicine, largely included methods which were based upon ignorance and superstitution.

The second era of Russian medicine was known as court medicine. Many of the early physicians of the Russian Court were from England. They served as diplomatic agents and carried on important and delicate negotiations between the two countries. It was of interest to note the important part held by the English in the introduction and improvement of medical art in Russia. Many medical men of other nations had entered the service of the Czars, but the English and the Scotch occupied the most prominent position.

The third era of Russian medicine occurred during the reign of Peter the Great. He was the first to lay a sound foundation for the development of science. He was the first ruler to send Russian students abroad to school and to import foreigners to teach in Russia. He was so interested in surgery that he purchased a set of surgical instruments and carried the outfit with him. He began to perform minor operations and later undertook a few serious operations, but history fails to enlighten us as to the results.

The fourth era of Russian medicine was known as Zemstvo medicine. Under the tutelage of Russian liberals about 1859, this force began to make rapid improvements. The number of doctors and medical centers were increased and soon native Russian doctors were considered equal to or better than their foreign competitors.

The fifth era is Soviet or socialized medicine. It is obvious that the author is in deep sympathy with this method of practice. He cited many improvements that have taken place since governmental control has been instituted. The names of many prominent physicians are mentioned in connection with state medicine.

For one who is interested in the history of Russian medicine this is a book worth reading. The author has a sympathetic appeal, understanding and knowledge of medical progress in present day Russia. He heartily endorses the medical régime and teaching of Soviet medicine.

WARREN HÉBERT, M. D.

Interns Handbook: By M. S. Dooley, A. B., M. D. Philadelphia, J. B. Lippincott Co., 1938. Pp. 523. Price $3.00.

Reduced to convenient pocket size, the whole containing more material than formerly, this manual is a valuable source of information for the intern. It contains an epitome of useful drugs and other therapy usually given by the resident staff, diets, a number of practical hints and suggestions, as well as useful data on toxicology. A timely inclusion is that dealing with the relationship of intern to hospital, enumerating what the intern should expect to give to and receive from the hospital. The intern should never be thought of as "hired help"; he should always be considered a student, an attitude which the intern, the hospital staff, and authorities should more clearly appreciate and more universally adopt.

This book may be provided profitably by hospitals for every member of their intern staff.

B. BERNARD WEINSTEIN, M. D.

Practical Microbiology and Public Health: By William Barnard Sharp, S. M., M. D., Ph. D.

St. Louis, The C. V. Mosby Company, 1938. Pp. 492. Price $4.50.

The section on clinical bacteriology and mycology in this work by Sharp is very clearly and simply written and it is regrettable that the illustrations do not do justice to the text. The section on immunity is well and concisely written, as is the entire section dealing with the various aspects of public health. The reviewer feels that the attempt to supply a laboratory manual as well as a field guide is somewhat confusing and detracts from the value of this volume. It should, however, meet a wide field of usefulness.

MACKAY FLINN, M. D.

A Synopsis of Physiology: By A. Rendle Short and C. L. G. Pratt. Baltimore, William Wood and Company, 1938. Pp. 325. Price $3.50.

This is one of a series which includes similar volumes on medicine, surgery, and obstetrics, written and published primarily for use in Great Britain and originally intended, in part, as an aid to students preparing for examinations. The authors indicate that the present volume has been thoroughly revised and comparatively small but numerous additions made in nearly every chapter.

The difficulties of adequately presenting the extensive amount of material available in physiology in a concise outline form are obvious and raise a fundamental question as to the value of such works. However, the appearance of this third edition attests a definite measure of success on the part of the present authors. As indicated in a review of the previous edition, certain omissions make this volume of only limited value to the American student or practitioner. Thus there is no mention of the anemias, except splenic anemia, circulatory abnormalities, kidney disease, cyanosis or artificial respiration. Many of the test methods listed are not commonly used in this country. On the other hand, many of our accepted methods are not mentioned. These include the Dare and Newcomer methods for determining hemoglobin, the acetylene method for cardiac output, urea clearance and phenolsulfonephthalein tests for kidney function, and the closed circuit method of determining basal metabolic rate.

H. S. MAYERSON, Ph. D.

The New International Clinics, vols. 1, 2, 3, 1938. Philadelphia, J. B. Lippincott Co., 1938. Price $2.50 ea.

There can be no detailed discussion of these volumes that will more emphatically point out the continued excellency of the clinics:

In volume 1, one may read such splendid essays as "Medical and Surgical Jaundice with a Consideration of Liver Deaths" by Samuel Weiss, M. D., and "Normal Blood Pressure" by Drs. Bordley and Eichna.

Volume II contributes "Recent Advances in the Study of Hypertension" by H. T. Karsner, and the extremely timely and important subject "The Insulin Treatment of Dementia Precox with Statistical Data Regarding the Disease in Canada" by Drs. G. E. Reed and T. E. Dancey.

Volume III presents among the several very important papers, one by George W. Kosmak, M. D. on "The Favorable and Unfavorable Results from the Practice of Modern Obstetric Trends and Procedures" and a symposium on some of the uses of sulfanilamide.

This brief discussion does these volumes little justice for it does not correctly convey to the reader their real worth and true merit. They are well worth the time and consideration you may give to them.

I. L. ROBBINS, M. D.

Dr. Bradley Remembers: By Francis Brett Young. New York, Reynal and Hitchcock, Inc., 1938. Pp. 522. Price $2.75.

Old Dr. Bradley sat in his study one bleak rainy evening after just having had an interview with a young medico to whom he was about to sell his practice. As he sat before the fire his thoughts wandered back to the time when he had started to practice fifty years before and his mind took up the tribulations and trials of his early youth. The author proceeds to detail the life of a country practitioner in a small commercial English town. He tells of the struggle of the young man to obtain an education, he recounts his medical experiences from the time that he left the medical school until the time he was musing before his grate, all this in some 500 pages.

The book truly is a fascinating one; it will give to the American physician an idea of how the medical man in England obtains his training, how his practice is conducted and, incidentally, at the present time a particularly pertinent consideration, how he has reacted to governmental insurance of the sick from the lower economic classes. As with the life of any man, there are pleasant interludes and sad periods. On the whole the latter predominate; tragedy followed the life of this lovable and beloved doctor. He lost his wife; his son as a young man died under most distressing circumstances, and he lost out on the woman that he wanted to marry after his wife died, but in spite of these sad episodes in his career the friendship and love of his patients and the almost adoration they gave him was continuously a comfort and often a pleasure.

A novelist with the reputation of Francis Brett Young, who has published some twenty-five novels, hardly needs to be praised, nor is the reviewer a sufficiently keen critic to do anything but extol the author's skill and ability. The book is splendid prose; interest is maintained throughout and the characterization of the doctor hero is logically human.

J. H. MUSSER, M. D.

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and
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THE BIOGRAPHIC CHRONOLOGY OF THE PAST PRESIDENTS OF THE LOUISIANA STATE MEDICAL SOCIETY*

WITH A BRIEF SUMMARY OF THE MEETINGS AND ACTIVITIES OF THE PAST PRESIDENTS' ADVISORY BODY

R. MATAS, M. D.†

New Orleans

PART I: SYNOPSIS OF STATISTICAL DATA GATHERED FROM THE BIOGRAPHIES OF THE PRESIDENTS OF THE LOUISIANA STATE MEDICAL SOCIETY (1879-1939)

With the ascension of Dr. J. A. O'Hara to the presidency of the Louisiana State Medical Society in May, 1938 (to serve for 1938-1939), and if we include the president-elect, Dr. Clarence Lorio, there are now listed fifty-eight presidents of the organization; twenty-three living and thirty-five dead. At the date of this report, February 16, 1939, Dr. W. Glendower Owen is the oldest ex-president, being 80 years of age, and Dr. Roy B. Harrison of New Orleans, the youngest ex-president at the age of 48 years.

The oldest presidents at the time of their election were Dr. J. P. Davidson, of New Orleans, and Dr. Richard H. Day, of Baton Rouge, both of whom gained this distinction at the age of 71 years. The former survived his office 7 years and the latter 8 years. The youngest president to attain office was Dr. Isaac J. Newton, Jr., of Bastrop, who was elected when 32 years old. He survived his office 41 years, which is the second longest survival to date.

Two presidents died in office: Dr. Albert B. Miles, of New Orleans, in 1894, and Dr. E. Lee Henry, of LeCompte, in 1920. One president, Dr. Robert M. Littell, of Opelousas, resigned shortly after his election in 1895.

The average age of survival for the deceased presidents is 16.5 years, and those living, 14.1 years, or 16.5 years for the dead and practically 14 years for the living.

There are certain notable exceptions to this average, as, for instance, among the deceased, Dr. Isaac J. Newton, who survived his presidency 41 years; Dr. A. A. Lyon, 35; Dr. James C. Egan, 32; Dr. Robert Littell, 31; Dr. Charles Chassaignac, 31; Dr. J. B. Elliott, 30; Dr. Henry Dickson Bruns, 26; Dr. F. W. Parham, 26; Dr. J. W. Dupree, 25; Dr. E. D. Martin, 24; Dr. Oscar Dowling, 23; Dr. G. A. B. Hays, 20; and Dr. E. M. Ellis, 2 years.

Among the living, Dr. Matas, the present historian of the Society, has survived his presidency 44 years; Dr. W. G. Owen, 39; Dr. R. O. Simmons, 27; Dr. Fred J. Mayer, 25; Dr. George S. Bel, 24; Dr. James C. Willis, 23; Dr. Wilkes H. Knolle, 20 years.

The medical specialties of the 58 presidents are represented as follows: General practice, 23; surgery, 10; internal medicine, 5; sanitation, 4; bacteriology, 2; dermatology, 1; psychiatry, 2; neurology, 1; radiology, 3; otolaryngology, 3; urology, 2; ophthalmology, 1; obstetrics, gynecology and abdominal surgery, 1.

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*Supplement to "Remarks in Presenting a Stereopticon Exhibit of the Portraits of the Founders and Presidents of the Louisiana State Medical Society," R. Matas, N. O. Med. & Surg. J., 82:20, 1929.

†Chairman of the Committee on History, and President of the Past Presidents' Advisory Body.

Twenty-four of the presidents have held professorial positions on the teaching staff of the Tulane University Medical School, and one on that of Louisiana State University Medical School. One was Dean of the Tulane Undergraduate Medical School, 1908-1920, Dr. Isadore Dyer. Three have been Deans of the Tulane Graduate School of Medicine: Dr. Charles Chassaignac (1897-1925), Dr. Denegre Martin (1925-1928), and Dr. H. W. Kostmayer (1934-). Dr. O'Hara is professor in the Louisiana State University Medical School.

It is a notable fact that none of the three primal founders, Chaillé, Bemiss and Richardson, ever occupied the presidential chair of the Louisiana State Medical Society.

Three have been presidents of the Louisiana State Board of Health: Dr. Joseph Jones (1880-1884), Dr. Oscar Dowling (1910-1928), and Dr. J. A. O'Hara, now and since 1928. One is Secretary-Treasurer of the Louisiana State Board of Medical Examiners (1921-), Dr. Roy B. Harrison.

The presidents represent the parishes in the following order: Orleans, 28; Caddo, 6; East Baton Rouge, 7; Rapides, 3; Plaquemines, 2; St. Mary, 2; Avoyelles, 2; St. Landry, 2; Acadia, 1; Iberville, 1; Lafourche, 1; Morehouse, 1; Richland, 1; Ouachita, 1.

It is again interesting to note that 35 of the 58 presidents are graduates of Tulane Medical School and 23 are from 16 other schools: Tulane, 35; University of New York, 1; University of Pennsylvania, 3; Medico-Chirurgical College of Philadelphia (now Graduate School of the University of Pennsylvania), 1; St. Louis Medical College, 1; University of Louisville, 1; Louisville Medical College, 3; Charleston Medical College, 1; Medical College of Carolina, 1; South Carolina University, 1; Jefferson Medical College, 1; Washington Medical College, 1; Vanderbilt University, 2; University of Tennessee, 2; Maryland Medical College, 1; Memphis Hospital Medical College, 2; New Orleans School of Medicine, 1. Total 58.

Three of the four primal founders (including the late Dr. Ernest Lewis) are likewise graduates of Tulane Medical School. It is evident therefore, that Tulane University continues to be the cradle and nursery of the majority of the presidents of this Society and of the leaders of the medical profession in Louisiana.

PRESIDENTS OF THE LOUISIANA STATE MEDICAL SOCIETY
SINCE ITS FOUNDATION, 1879-1939, TOTAL 58.
OF THE 58 PRESIDENTS, 35 HAVE DIED: 23 ARE LIVING,
INCLUDING PRESIDENT-ELECT LORIO, TO BE INAUGURATED AT THE 1939 SESSION

DATA REGARDING THE 23 LIVING PRESIDENTS

Name	Residence	Date of Birth	Date of Presidency	Age When Elected President
Rudolph Matas	New Orleans	1860	1894-95	33
W. Glendower Owen	White Castle	1858*	1899-1900	40
R. O. Simmons	Alexandria	1868	1911-12	43
Fred J. Mayer	Opelousas	1859	1913-14	54
George S. Bel	New Orleans	1872	1914-15	42
James C. Willis	Shreveport	1865	1915-16	50
Wilkes H. Knolle	New Orleans	1870	1918-19	48
Joseph* E. Knighton	Shreveport	1870	1921-22	51
Lester J. Williams	Baton Rouge	1880	1923-24	43
S. M. Blackshear	New Orleans	1884	1926-27	42
Arthur A. Herold	Shreveport	1882	1927-28	45
Leon J. Menville	New Orleans	1882*	1928-29	46
Frank T. Gouaux	Lockport	1883	1929-30	46
Herman B. Gessner	New Orleans	1872	1930-31	58
S. C. Barrow	Shreveport	1876	1931-32	55
Roy B. Harrison	New Orleans	1891	1932-33	41
Carl A. Weiss	Baton Rouge	1878	1933-34	55
S. Chaillé Jamison	New Orleans	1887	1934-35	47
C. P. Gray, Sr.	Monroe	1882	1935-36	53
H. W. Kostmayer	New Orleans	1883	1936-37	52
C. M. Horton	Franklin	1879	1937-38	58
Joseph A. O'Hara	New Orleans	1869	1938-39	69
Clarence A. Lorio	Baton Rouge	1896	1939-40	43

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*Errata in original report hereby corrected.

The average age of the 23 living presidents is 62.8 years. The longest survivals since presidency to February 15, 1939 are Rudolph Matas, 44 years, and W. Glendower Owen, 39 years.

Thirty-five (60.3 per cent) of the 58 presidents were graduates of Tulane.

SPECIALTIES REPRESENTED BY THE 58 PRESIDENTS

General Practice	23
Surgery	10
Internal Medicine	5
Sanitation	4
Bacteriology and Pathology	2
Dermatology	1
Psychiatry	2
Neurology	1
Radiology	3
Otolaryngology	3
Urology	2
Ophthalmology	1
Obstetrics, Gynecology, and Abdominal Surgery	1

PARISHES REPRESENTED BY THE 58 PRESIDENTS

Orleans	28
Caddo	6
East Baton Rouge	7
Rapides	3
Plaquemines	2
Saint Mary	2
Onachita	1
Avoyelles	2
Richland	1
Iberville	1
Saint Landry	2
Acadia	1
Lafourche	1
Morehouse	1

LIST OF PRESIDENTS OF THE LOUISIANA STATE MEDICAL SOCIETY WHO HAVE DIED SINCE THE SEMI-CENTENNIAL IN 1929

Name and Dates of Birth and Death	Residence	Date of Presidency	Age When Elected President	Age at Death
I. J. Newton (1856-1930)	Bastrop	1888-89	32	74
Charles Chassaignac (1862-1936)	New Orleans	1904-05	42	74
Henry Dickson Bruns (1859-1933)	New Orleans	1906-07	47	74
Oscar Dowling (1866-1931)	New Orleans	1907-08	41	65
E. Denegre Martin (1863-1933)	New Orleans	1908-09	45	70
Benjamin Ledbetter (1868-1931)	New Orleans	1912-13	44	63
William H. Seemann (1878-1938)	New Orleans	1916-17	38	60
Clarence Pierson (1868-1934)	Alexandria	1917-18	49	66
Homer Dupuy (1871-1936)	New Orleans	1920-21	49	65
Paul Gelpi (1874-1932)	New Orleans	1922-23	48	58
C. V. Unsworth (1870*-1929)	New Orleans	1924-25	53	58

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*Error in original report hereby corrected.

PART II: PAST PRESIDENTS' ADVISORY BODY HISTORICAL NOTE

Beginning with annual dinners, instituted for purely social enjoyment, the Past Presidents' group of the Louisiana State Medical Society has developed through the years with little or no actual organization or official interest, but with an ever increasing sense of loyalty to the society and its welfare.

At the annual meeting of the society, May 1, 1930, Dr. Robert G. Douglas, of Shreveport, introduced in the House of Delegates an amendment to the charter "providing for the retention of our ex-presidents as an advisory board to the House of Delegates, with all the privileges except voting on constitutional offices," and moved its adoption. The motion, seconded by Dr. Chalaron, was carried. The secretary stated that there were other amendments being held over and suggested postponing publication of a new charter for another year in order to include this amendment, which would probably pass the next year.

According to constitutional order, April 13, 1931, Dr. Douglas again introduced the above amendment, which then had to be held over for twenty-four hours before a vote could be taken.

On April 16, 1931, the motion of Dr. Douglas, submitting an amendment to Article V of the constitution, "House of Delegates," as follows, was read:

"The House of Delegates shall be the legislative and business body of the Society, and shall consist of: (1) Delegates elected by the component district or parish societies; (2) ex-officio, the officers of the Society as defined in this Constitution, and (3) an Advisory Body composed of Past Presidents without the power of voting on constitutional offices." Dr. Bernadas moved adoption of the amendment, seconded by Dr. deGravelles. Then followed discussion as to whether or not the power of the presidents should be limited as stated. The amendment was finally carried as read.

In addition to the preceding amendment, the House of Delegates appointed a committee consisting of Drs. Glendower Owen and E. O. Trahan, to order testimonial medals to be awarded living past presidents, in accordance with the precedent established by the American Medical Association, which annually confers a medal on its retiring president. The emblems were conferred on all living past presidents of the Louisiana State Medical Society at the annual meeting of 1932, and each succeeding year up to the present time, a similar emblem has been conferred on the retiring president.

The living presidents are listed as Advisory Body in the list of delegates in the minutes of the annual meetings beginning with 1932, and in the program of the annual meetings beginning with 1934. The Past Presidents' dinner, instituted in 1928, has its place on the printed program of the annual meetings beginning in 1935.

PAST PRESIDENTS' ORGANIZATION, 1928-1939

On April 9, 1928, during the annual meeting of the society, in Baton Rouge, the past presidents first met at dinner as the guests of Dr. Lester J. Williams, at the Westdale Country Club. The custom has been continued coincidently with each annual session on the first day of meeting, except in 1929, the semi-centennial year, and in 1932 when emblems were presented the past presidents.

At the Lake Charles meeting in 1936, Dr. Matas was elected president of the organization "for life," and the following year, in Monroe, Dr. Roy B. Harrison was elected secretary.

Although as early as 1931 the presidents informally discussed their function and duties as an advisory board, mainly with a view to keeping politics out of the society, and similar informal discussions have marked several succeeding annual dinners, no definite plan for appropriately serving the society has been formulated, though suggestions from an appointed committee are under consideration. In the interval, the past presidents' group continues to be essentially a social organization, in which good fellowship prevails. Seriously concerned in the society's welfare, it has held its latent potentialities in reserve for action when called for.

STANFORD E. CHAILLE

AN APPRECIATION*

ISIDORE COHN, M. D.

NEW ORLEANS

This is a moment of memory and inspiration; memory, for those who were privileged to know the Dean, and inspiration for the younger generation who are to learn something of the great leader whose life and work paved the way for medical organization in New Orleans and Louisiana, for high standards of medical education in the South, and for a consciousness of the duties of the doctor as a citizen.

We cannot perpetuate the memory of the immortal, but we can with justice try to keep burning the eternal light of the life and ideals of Chaillé, to whom we and the future generations are indebted for so much.

When we think of Dr. Chaillé, we must think in terms of a circle with him as the central figure. From the center of the circle the radiating lines to the circumference represent the many activities of his life and his accomplishments. The multitude of tangents from the circumference are too numerous to mention. At this time as radiating lines we think of the citizen, the soldier, the teacher, the executive, the organizer, the loyal friend, the man of uncompromising ideals, honesty and integrity.

We should forever cherish the memory of one who labored that we might work in professional unity, and to the end that the citizens of our country might enjoy the privileges of protection against communicable disease.

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*Annual Chaillé Memorial oration presented before the Orleans Parish Medical Society, December 12, 1938.

The dedication of an annual oration to the memory of Stanford E. Chaillé is peculiarly fitting. Dr. Chaillé was one of the founders of the Orleans Parish Medical Society, and of the Louisiana State Medical Society. He was the author of the constitution and by-laws of both organizations. At the dedication of the domicile of the Orleans Parish Medical Society in 1911, he said that he "took part in the generation, the parturition, the delivery, and the devoted parental nursing, during the ten years of the feeble childhood of both societies."

Poverty, chaotic reconstruction conditions, poor lines of communication and lack of appreciation of the importance of organization by medical men are reasons that state and parish medical units had not been formed.

When General Nicholls was elected Governor of Louisiana April 26, 1877, "All patriots realized that we free-born white citizens, had gained our liberty, and justice and progress depended at last on ourselves and no longer on aliens, traitors, and freed slaves backed by the Federal Army." (Chaillé).

Dr. Chaillé felt that an opportune time had arrived to organize state and parish medical societies. Therefore the Orleans Parish Medical Society was organized May 6, 1878, and the State Medical Society on April 9, 1879.

Chaillé was convinced that:

"Public health is a nation's wealth.

"Disease fosters immorality.

"To promote public health and avoid the woeful evils of disease, medical education is indispensable."

Dr. Chaillé urged that the greatest duty of the new societies was to promote the public welfare. No man ever taught the duties of citizenship and the necessity of a proper liaison between the doctor and the public welfare more ardently than did Stanford E. Chaillé.

When he learned that a state constitutional convention was to be called for 1879, he worked strenuously in order to prepare an article on state medicine for introduction into the State Constitution.

Article 178 of the Constitution of 1879, which is to the effect that: "The general assembly shall provide for the interest of state medicine in all its departments," was the fruit of Dr. Chaillé's efforts.

Let me remind you, as he himself would say, that his efforts were not all met by acclaim. By his own report he received "unusual applause, but very little support." The profession denounced evils, "but did nothing to correct them."

His clarion calls to appreciate one's duties as a citizen are beautifully summed up in these words: "We teach our children to sing that our country is the land of the free, and the home of the brave, and when these soul stirring words are heard, we, swelling with pompous vanity, uproariously applaud. Are you sufficiently free of indolence, ignorance, prejudice; are you brave enough to strive to establish such good laws, in every department of state medicine as would very greatly benefit the commonwealth?"

Chaillé's interest in state medicine or public hygiene as he calls it, marked him as being far ahead of his time, for as early as 1879, he said: "No one of the four branches of state medicine involves the public welfare to so enormous an extent as preventive medicine."

These are prophetic statements because only within recent years have we consistently taught, investigated, and worked on the subject of preventive medicine as we should.

Preventive medicine did not receive the recognition which he thought it should and in 1882 he expressed his impatience with this unfortunate state of affairs. "We ought not to be surprised that hygiene is still so ill appreciated by the people, when we recall the many centuries it required to establish, as popular political principles, freedom of religious belief, liberty of speech, and of the press, general suffrage and universal education: to discover, then popularize the facts, that the earth was round, that in its annual course it encircled the sun, and that the dreadful thunderbolt of awful Jove could be drawn from his mighty hand by feeble man and forced to write, to speak, and even to light a street lamp."

Did advancing age diminish his ardor for the spread of knowledge with reference to preventive medicine? This can only be answered by referring to his forceful writing as late as 1898: "A man's health is his property, and more valuable than his purse. Let him waste either if he will; but he shall not waste either in injuring others against their will."

* * *

Yellow fever which had been such a tremendous scourge and impediment to the progress of New Orleans and the South, appealed strongly to Dr. Chaillé, and in 1879 he extended his efforts for the benefit of Louisiana beyond our borders as Chairman of the Yellow Fever Commission to Havana. The work of the Yellow Fever Commission, which Dr. Chaillé headed, is, or should be, familiar to all. In order to appreciate, however, how responsive to scientific advances, how orderly and analytic his mind was, we must quote from his contributions as chairman. In 1879 Dr. Chaillé stated: "Progress in the knowledge and control of yellow fever will depend, not on wonderful discovery by luck or genius, but on the progress of science in microscopy, chemistry and diagnostics, and, in the progress of civilization, especially in the habitats of yellow fever, in vital statistics and public hygiene."

He insisted even then: "While yellow fever is not personally contagious, it is communicable, and there are unknown conditions favorable to the growth of the poison."

At the age of 73 Dr. Chaillé stated: "The probabilities now are, that the stegomyia is the sole cause for the dissemination of yellow fever."

With reference to the prevention of yellow fever in 1882, as Chairman of the Flushing Committee, he stated: "In truth there are only two preventive measures, namely, cleanliness and non-intercourse. . . . Thorough cleanliness of a city necessitates a perfect system of sub-soil as well as of surface drainage. . . . There are arguments in favor of quarantine which appeal to one's common sense so strongly that they leave, it seems to me, no room for doubt." His arguments bore fruit in the campaign of 1905.

I think that we may rightfully state that Chaillé was the greatest force for the diffusion of knowledge of preventive medicine that Louisiana has known.

Since no city and few states owe as much of their present prosperity to the work of the doctor and particularly of those who devoted their lives to preventive medicine I believe we may rightfully say that Dr. Chaillé deserves the title of First Citizen of Preventive Medicine in the State of Louisiana.

DR. CHAILLE THE TEACHER

Dr. Chaillé was wont to remind us that he was "three professors boiled into one." He was our professor of physiology, of hygiene and pathologic anatomy, as well as our Dean.

To each of these positions he brought the highest attributes, for to the position of professor of physiology, be brought his training as a student under Claude Bernard, then the greatest living physiologist; to the position of professor of hygiene, he brought the great amount of experience of the sanitarian and good citizen; to that of pathologic anatomy he attempted to instill into us the ways of Bichat; and to his duties as Dean, his native capacity as an executive, his forceful leadership, and the confidence of his associates in his absolute integrity and unselfishness.

Dr. Chaillé taught in the Medical School for fifty years and was Dean for twenty-four years. Speaking of this with his characteristic humor he stated: "To my very laborious duties as Professor from 1868 to 1909, there were added from 1885 to 1909, the heavy burden of the Deanship of the Tulane Medical Department, with such trying tasks as the management of its finances and the persuading of from three to six hundred teachers and students to work in harmony."

Many eloquent evidences of appreciation of Dr. Chaillé as Dean and as Faculty Associate have been expressed by the late Dr. Lewis and our own Rudolph Matas, whom I believe Dr. Chaillé considered his most distinguished pupil and loyal friend.

I believe that Dr. Chaillé fulfilled all of the requirements of the ideal teacher. "The teacher should be a man whose ideals are above reproach, one whose ways are simple and direct, and whose motives are not tainted by selfish thoughts of personal aggrandisement, one who is not led to do things which are purely spectacular, one whose work is performed with a singleness of purpose intended to lead the younger aspirant to do things which are helpful to the sufferer and not done for the purpose of filling his purse or for newspaper notoriety."

"Purity of motive must actuate the teacher so that the pupil may have an ideal to follow." (Isidore Cohn)

Certainly our Dean typified all of these ideals and left with us a memory which will live beyond our own grave. It is our duty to pass on to others of a younger generation our appreciation of one who did so much for us during our student days.

DR. CHAILLE THE MAN

Some of the outstanding characteristics of the man were loyalty to friends, due appreciation of the rights of others and simple directness of thoughts and action. The following will serve as illustration: "The following testimony may hereafter be needed by you at a date when I may not be living, and as I am your only witness to facts antedating—I deem it a duty to record my evidence." (Quotation from an unpublished letter to a friend.)

This I believe to be eloquent evidence of the fact that an individual's loyalty can transcend the bounds of the grave. No more beautiful evidence of the greatness of an individual and his appreciation of loyalty I believe could be shown than this.

Dr. Chaillé intended that others should be privileged to enjoy all of the rights of citizenship, just as he expected others not to interfere with his own rights as a citizen. "The subject before us is simply and purely a question of politics. It is a matter for the legislature to deal with, not one to be dictated by a body of medical men. We cannot deny that homeopathists are citizens, sir, and as such they are entitled to legal rights. It is simply, sir, in that aspect that I view it, and I think a mistake has been made by some of the speakers here today, in that they fail to recognize the question as one entirely of citizenship and of politics."

In speaking of him on one occasion Mr. George Denegre, a close personal friend stated: "I never knew a man who had a greater hatred of knavery and trickery, he was unusually unaffected and unpretentious, absolutely free from envy, and of the highest integrity and honesty. He despised show, conceit and pretense, he dealt with realities."

I have spoken of Dr. Chaillé as the organizer, as the sanitarian, as a citizen, as a teacher.

I cannot with justice close without quoting from Dr. Chaillé's most illustrious pupil and friend, our own distinguished Dr. Matas. On April 25, 1912, Dr. Matas said: "No honor that we may render, no eulogium that we may utter, reach into the far off mysterious realm to which the spirit of the mighty dead has gone. But the living may be taught by a great example, and ambition may be stirred in those who follow us by the contemplation of such an inspiring life as that of this man, truly great in the accomplishment of noble deeds and worthy purposes."

May the illustrious example of our Dean encourage, stimulate and inspire us, to walk nobly, earnestly and honestly, in paths of truth and service.

Chaillé was a man—he is one of the immortals.

BIOGRAPHIC RESUMÉ

Dr. Stanford Emerson Chaillé was borne July 9, 1830 in Natchez, Mississippi; died May 27, 1911.

He entered the Medical Department of the University of Louisiana in 1851 and graduated in 1853.

From 1852 to 1853 he was resident physician Charity Hospital.

1853 to 1854 he was resident physician Circus Street Hospital.

From 1854 to 1860 he was Demonstrator of Anatomy in the Medical Department of the University of Louisiana.

From 1867 to 1908 he was Professor of Physiology.

1879 he was Chairman of the Havana Yellow Fever Commission, later he was appointed Expert Agent of the National Board of Health in New Orleans, and Supervisor of the National Board of Health in 1881.

From 1860 to 1861 he was a student in Paris, under Claude Bernard.

From 1861 to 1865 he served in the Confederate Army occupying various capacities from private in 1861 and 1862 to the position of Surgeon in charge of the Ocmulgee Hospital, Macon, Georgia, until May, 1865, when he was captured by the Federal troops and he was paroled in 1865.

Dr. Chaillé was Dean of the Medical Department of Tulane University from March 31, 1885 until 1908.

He was personal physician and friend of Jefferson Davis.

He was a sanitarian, soldier, teacher, executive, and medical organizer.

PERITONEOSCOPY*

GORDON McHARDY, M. D.†

New Orleans

My purpose in presenting this paper is an attempt to draw attention to a diagnostic measure which is relatively neglected. Though internist, surgeon, gynecologist, urologist and radiologist have written of it, only thirteen articles appear in the American literature.

Peritoneoscopy, the most recent diagnostic invasion of the body cavities by the endoscopist, consists of the visualization of the peritoneal cavity and its contents by means of an optical instrument; besides visualization it permits aspiration, biopsy, cauterization, coagulation and radon seed implantation. It departs from the ordinary endoscopic procedures in that its entrance orifice must be artificial and this may, in part, be the reason why the method of endoscopic laparotomy has advanced so slowly in comparison to the comparably recently accepted gastric endoscopy.

Kelling is credited with the introduction of this method of examination with his first work reported on animal experimentation in 1902. In 1910 both he and Jacobaeus separately reported on humans subjected to visceral exploration. These two workers established essentially the same technic as is now applied, both using cystoscopes. Numerous reports appeared in the literature but until recent years no adequate instruments were introduced, each author suggested some variation of the cystoscope.

It was not until 1934 that Ruddock, aided by the American Cystoscope Company, made available the excellent instruments which are responsible for the recent advances peritoneoscopy has made. The examination has been titled laparoscopy, celioscopy, abdominoscopy, ventroscopy, organoscopy, splanchnoscopy. Ruddock has endorsed the name peritoneoscopy and this term most ably describes the procedure.

It is surprising how slow this procedure is to attain a prominent place. Recent writers maintain its virtues and enthusiastically state it will soon gain wide acclaim. Until Ruddock's 1937 publication the literature had no presentable statistics. Soon, I am certain, there will be equally voluminous reports; I understand an extensive study is under way at The Mayo Clinic.

The indication for endoscopically examining the abdomen is any complaint of intraperitoneal nature undiagnosable by more conservative measures. It is not felt that this procedure is applicable to the acute abdomen but rather that it is an adjunct to other diagnostic measures in the puzzling chronic abdominal condition wherein time is available for study, and surgery, if deemed necessary, is elective.

The value of this procedure is emphasized by its ease of application, the convincing visual differential diagnosis, the possibility of determining operability and the advisability of surgery. It does not replace laparotomy, but it lessens the indications for abdominal diagnostic surgery.

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*Read before the Orleans Parish Medical Society, November 14, 1938.

†From the Department of Medicine of the School of Medicine of Tulane University and the Gastro-intestinal Service of Touro Infirmary.

Ruddock, an internist, mentions the fact that the medical man "must share the responsibility for fruitless laparotomies performed for diagnostic purposes"; further, most often when the surgical search reveals an inoperable malignancy, the patient becomes the responsibility of the internist for the trying terminal care. It may be readily concluded, therefore, if the benefits of peritoneoscopy be available, that unnecessary and unsatisfactory surgical procedures may be avoided. Diagnostic laparotomy is not trifling, it entails expense, anesthesia, complications, bed confinement; in ascitic cases wound healing is quite a problem with evisceration all too frequent; in malignancy death frequently follows closely on operation and suspicion is thereby cast on the surgical procedure as the primary cause of death.

One does not have to practice medicine long to number among one's patients undiagnosed cases, unsuccessfully surgically treated individuals, psychotics who have become worse after repeated useless major abdominal surgery, and those dying with inoperable malignancies who have suffered exploratory operation. All of these evidence support for peritoneoscopy.

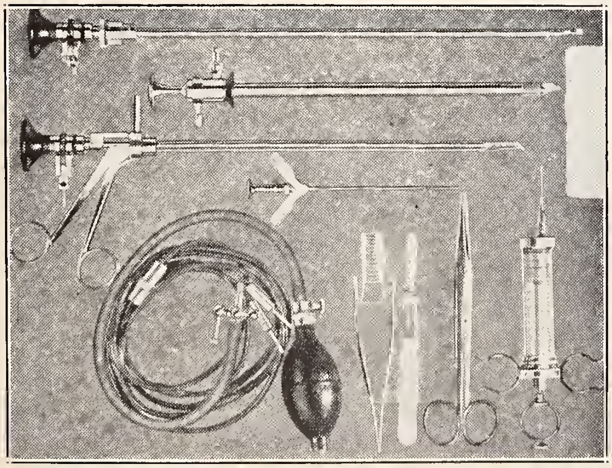

Fig. 1. Equipment for peritoneoscopy. (This and other illustrations are used through the courtesy of Dr. John Ruddock and the American Cystoscope Makers, Inc.)

EQUIPMENT

The peritoneoscopic equipment consists of: (1) a metallic sheath, a glorified paracentesis sheath, the top of which is fitted with a lock and a stopcock on the side; (2) an obturator, with a dull point which fits the sheath and becomes a trocar to aid entrance of the sheath into the abdominal wall; (3) the telescope, which also fits the sheath with an air-tight connection and is similar to a cystoscopic instrument; (4) biopsy forceps, which connected to a telescope fit the sheath, with an air-tight connection, and are equipped to take tissue and coagulate; (5) aspirator; (6) pneumoperitoneum needle of special design; (7) an illuminating Rehfuss gastric tube; (8) rubber tubing and bulb.

TECHNIC

The technic, relatively simple, is carried out under surgical asepsis. The abdomen is prepared as for laparotomy, novocain is used locally, the skin is nicked, the pneumoperitoneal needle is introduced and the abdomen is distended with air. The sheath with obturator is inserted as is a paracentesis trocar. If there is ascitic fluid this is aspirated. The telescope is introduced and the peritoneal cavity after distension is studied with the patient moved about and palpated as indicated for thorough examination. Biopsy is performed by

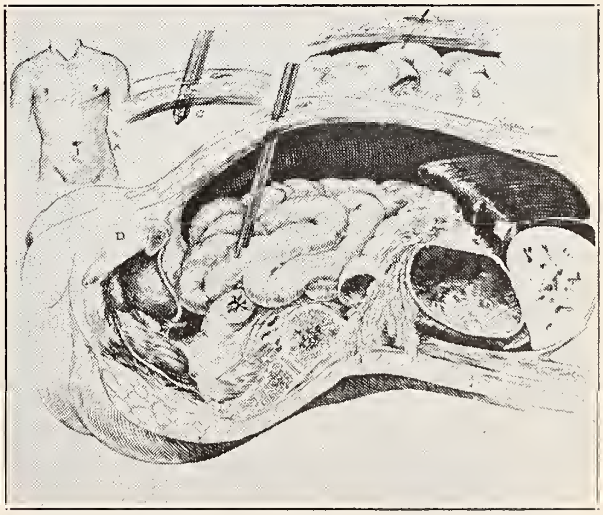

Fig. 2. Technic: (A) Site of puncture incised; (B) pneumoperitoneal needle in place for distending the peritoneal cavity; (C) peritoneoscopic sheath with trocar introduced; (D) examining the distended abdominal cavity.

the forceps; the closed tip is the coagulating electrode.

To aid visualization of the stomach, rectum, sigmoid, colon and vagina a lighted tube is introduced into the respective sites.

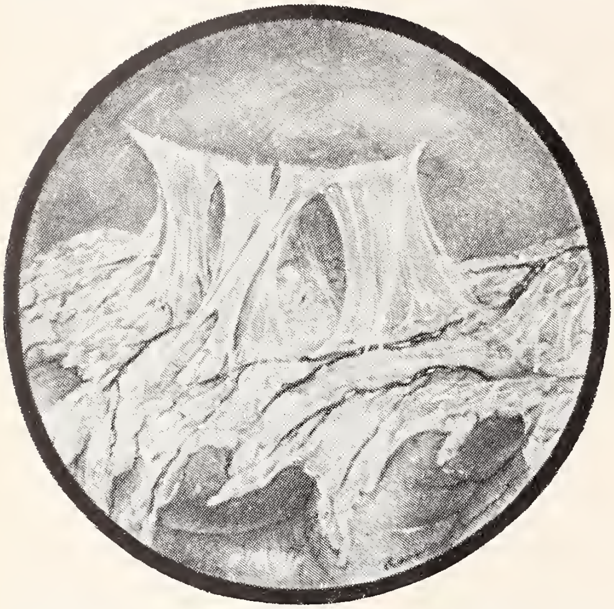

Fig. 3. Abdominal adhesions as seen through the peritoneoscope.

Readily discernible pathology includes: (1) adhesions; (2) hepatic malignancy and cirrhosis; (3) tuberculous peritonitis; (4) carcinoma of different sites; (5) hepar lobatum; (6) ovarian cysts and tumors; (7) extra-uterine pregnancies; (8) acute and chronic cholecystitis; (9) various types of splenomegaly; (10) gastric and duodenal lesions on the anterior surface; (11) polycystic kidneys; (12) bladder and sigmoid diverticula; (13) pelvic inflammatory disease; (14) uterine tumors, (15) malposition of pelvis viscera; (16) pancreatic enlargement.

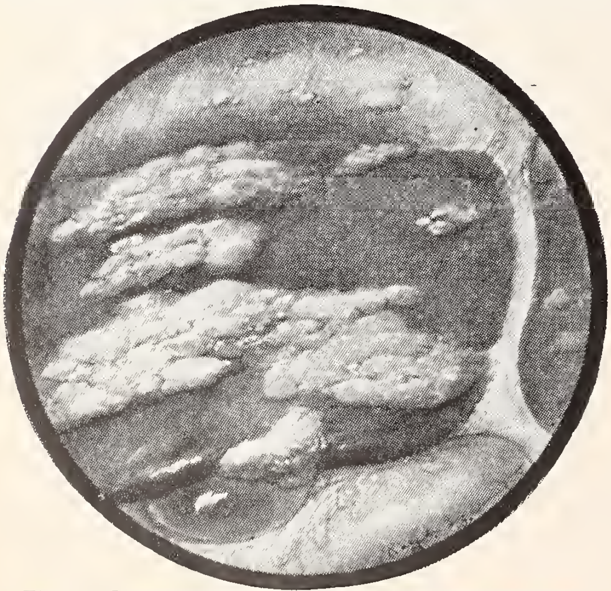

Fig. 4. Metastasis to liver observed by peritoneoscopy.

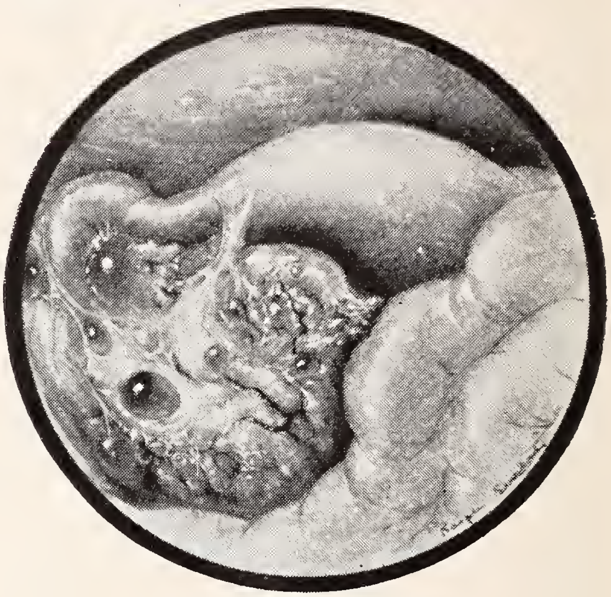

Fig. 5. Cystadenoma of ovary.

COMPLICATIONS

Complications are rare but must be kept in mind. Accidental perforation of a viscus occurred in 1.6 per cent of Ruddock's 500 cases. This is avoidable with care: The site of puncture should avoid the scar of abdominal surgery where adhesions are most likely; the plunger should have a dull tip. We are all aware of how easily a paracentesis is done without fear of such complication.

A biopsy wound not properly coagulated may result in fatal hemorrhage; Ruddock presents a single example of such an accident.

An unsuccessful examination is likely in the plastic peritoneal cavity of tuberculosis and of malignancy, but such a failure is in itself diagnostic. Hernia through the puncture scar is a possibility, but there are no reports on its incidence. Hematoma at the puncture site is the most frequent accident, but it is of minor importance.

ACCOMPLISHMENTS OF PERITONEOSCOPY

Compilation of statistics reveal that: (1) The peritoneoscope has a diagnostic accuracy of 91.7 per cent; (2) endoscopic laparotomy, with the advantages of biopsy, can be performed with a mortality of 0.5 per cent.

My own experience with this method of examination has been, like that of many physicians, too inadequate. I am not at this time prepared to present case reports in detail but I do have confirmatory conclusions from my work.

SUMMARY AND CONCLUSIONS

1. The method permits safe visualization of the peritoneal cavity, aspiration and biopsy under ideal circumstances avoiding the expense, inconvenience, discomfort, mortality and complications of surgical laparotomy.

2. While nothing can be accurately palpated more can be seen than in the average laparotomy:

3. Technical difficulties are few and dangers to the patient are minimal.

4. The diagnostic value is unquestionable. In only one instance did I fail to make a diagnosis and this case is soon to be reperitoneoscoped and a biopsy is to be done to determine the cause of a severe anemia with splenomegaly.

5. I have not encountered a complication. One patient was peritoneoscoped on three occasions without mishaps; the repeated peritoneoscopies were no more discomforting to the patient than were paracenteses which were necessarily done between peritoneoscopies.

6. A knowledge of surgical pathology is necessary for accurate diagnosis so that, if the internist is to be the user of this instrument, he must be a frequenter of the operating room and of the necropsy table.

7. Peritoneoscopy fills a definite need in the evaluation of diagnostic problems and offers promise of many benefits as our perception and knowledge develop.

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DISCUSSION

Dr. William H. Meade (New Orleans): As stated by the speaker this procedure was done first over thirty-five years ago, the Nitze cystoscope being used.

While radiologists, internists and surgeons have written on this subject, and recently an extensive article by Ruddock an "internist," appeared in the literature, this procedure appeals to me as being a strictly surgical one, because (1) training in asepsis; (2) familiarity with macroscopic pathologic anatomy of the abdomen and (3) the ability to cope with complications arising from the use of the instrument itself, are essential.

As Ruddock states, this procedure cannot and will not replace laparotomy. It however may save some patients from unnecessary surgery and in other cases may guide the surgeon's approach.

Due to the generosity of Dr. Ficklen in allowing me the use of his peritoneoscope I have had a limited experience with the procedure. Eighteen patients were examined, nine of them under ideal conditions, i. e., they were done at the autopsy table within three hours after death. At least that number should be done for orientation and to keep from looking at the same thing throughout the procedure.

The following diagnoses were made in the cases: (1) fibroids; (2) acute salpingo-oophoritis; (3) chronic pelvic inflammatory disease; (4) carcinoma of the stomach; (5) peptic ulcer; (6) adhesions from the cecum to the parietal peritoneum; (7) adherence of the omentum to the parietal peritoneum; (8) non-specific chronic granuloma of the ascending colon; (9) absence of liver and peritoneal involvement in carcinoma of the rectosigmoid; (10) normal abdominal viscera in five cases. The chronic non-specific granuloma at surgery was found to be a hypernephroma of the lower pole of the right kidney. A large stone in a fairly normal appearing gallbladder was missed, and I believe this could have been palpated with the instrument had I been suspicious of its presence.

Patients with extremely well developed musculatures do not distend well; fluid must be aspirated when present in sufficient amount to envelop the objective lens, and, in introducing the trocar through the peritoneum, care must be taken to keep the instrument almost parallel to the abdominal wall. (The method is well adapted to differentiating intra-abdominal masses from abdominal wall masses, both by direct vision and by transillumination.)

Not one of the nine living patients complained of pain in the shoulder; in fact very little complaint was elicited from any patient except the one with the acute salpingitis who complained of severe pain when the tubes were touched with the instrument. One girl, aged 14, who had had two abdominal operations, returned with a complaint of abdominal pain and vomiting. Members of her family were mentally unstable and she was no improvement on the others. We expected to have considerable trouble with her, but she did not complain once during the examination.

In cases of malignancy of the stomach, and possibly of other organs, I do not think that one can always judge by peritoneoscopy as to whether the lesion is operable or inoperable; of course with multiple metastases the conclusions are obvious. Where the differentiation between tubal pregnancy and pyosalpinx or hydrosalpinx is to be made, the instrument has an unquestioned status.

Returning to my original thesis that this is a surgical procedure and not a minor one either, a hospital and not an office procedure, to be convinced one has to turn only to the complications mentioned by Ruddock. There were eight perforations: four of the small bowel, two of the large bowel and two of the stomach. There was one fatal hemorrhage from biopsy.

I suggest that this procedure can be used as a substitute for a complete autopsy, when the relatives object to a mutilating incision.

Dr. Warren Hebert (New Orleans): It is probable that peritoneoscopy along with the other endoscopic methods of diagnosis will some day occupy a conspicuous place.

My information in regard to this subject is based on personal experience and personal contact with a man who has popularized the recent use of the peritoneoscope. During the past summer it was my good fortune to assist Dr. Ruddock for a period of one week during a visit to Los Angeles.

The question has been asked, why has peritoneoscopy failed to advance more rapidly? Only in recent years has an instrument been perfected which will justify an artificial opening in the abdomen for this type of an examination.

The American Cystoscope Makers withheld publicity concerning this instrument until the recent publication by Ruddock which appeared in the Journal of Surgery, Gynecology and Obstetrics. This instrument was first exhibited last summer at the meeting of the American Medical Association, and will prove of value to the surgeon, gynecologist and the internist. It will be of particular interest to the surgeon and gynecologist because they are in constant contact with the appearance of the organs within the abdominal cavity.

How is this examination best conducted? Let us assume the patient has been prepared as for an abdominal operation. The instrument is inserted through a puncture wound and the examination of the abdominal cavity is carried out. The examiner will decide whether or not this examination is sufficient or should an exploration be carried out. If an exploration is advisable, the anesthetic is administered and the abdominal incision is enlarged so as successfully to perform an abdominal exploration. In other words, the desirability of a peritoneoscopic examination will depend on whether or not an exploration of the abdomen is possible should it be considered advisable at the completion of the endoscopic examination. If examination has to be postponed to some later date this may not always be desirable.

It seems as though the principle indication for this type of examination is in a case of abdominal ascites. In this condition it is necessary to perform a paracentesis in order to establish a diagnosis as well as relieve the distention from the excessive accumulation of fluid. Following removal of the fluid, a light can be inserted which enables the entire abdominal cavity to be examined. If this instrument does nothing more than allow visualization of the abdominal cavity after the removal of fluid in cases of ascites, it will have served its purpose.

My remarks are not in support or condemnation of this procedure. The fact remains, it is a procedure that cannot be denied and in time it will occupy a position along with the various other endoscopic methods used in diagnosis.

In answer to the question, why has peritoneoscopy failed to progress more rapidly, I will say this: Peritoneoscopy has waited for a peritoneoscope, and now the instrument is here.

Dr. Gordon McHardy (In conclusion): I agree fully with everything said in regard to this procedure having complications but these have been minimal in a large series of cases. I will also add, in dispute with Dr. Meade's statements, that it is claimed by the surgeon, internist, urologist and gynecologist. The urologist has basis for his claim in that he is more familiar with such an instrument, the surgeon in that he is more familiar with abdominal pathology, the gynecologist in that he is interested in the pelvic aspects. I do not feel that the internist lacks the wherewithal to learn surgical pathology. However, regardless of who gets credit for using the instrument, its value is unquestionable and I hope that it may be used more widely in the near future.

GASTROSCOPY*

DONOVAN C. BROWNE, M. D.
NEW ORLEANS

Since the introduction of the flexible gastroscope in this country by Schindler in 1935, the utilization of this method of examining the stomach has spread consistently. A number of articles dealing with the technic of gastroscopy and reports of studies have been published. The excellent book recently published by Schindler makes unnecessary a discussion of the routine technic of examination or a detailed description of the instrument itself. It is not my purpose to present at this time any particular work I have been carrying on in the past few months but rather again to call your attention to this method of morphologic examination of the stomach and to stress its clinical importance. Although gastroscopy has been employed elsewhere for several years, it is only recently that it has been utilized here.

For many years the clinical diagnosis of gastric disease was centered around a study of the function of this organ; yet the desirability and necessity of direct examination of the gastric mucosa and its anatomic changes in diseases have long been felt. Efforts to accomplish this date back to Kussmaul, 1868, who probably designed the first gastroscope.

Following this, many valuable contributions were made and many of the hazards and technical difficulties were overcome by the efforts of such men as: Nitze, 1879; Mikulicz, 1881; Kelling, 1900; Sussmans, 1911, and many others. None of the scopes developed by these men overcame the hazards and technical difficulties until Schindler, working with Wolfe of Berlin, in 1932, devised a flexible instrument which solved most of the previous difficulties and placed gastroscopic examination on a firm base.

This development changed the whole aspect of the clinical value of gastroscopic examination of the stomach; it is true, however, that the instrument as recently developed leaves much to be hoped for. Its proper use cannot be accomplished without considerable training. There are a few so-called blind spots which may not be inspected under certain conditions but the comparative safety of the instrument places its use within the reach of everyone truly interested in gastrointestinal studies.

A word of caution is properly interposed at this time. While I am convinced that the technic of gastroscopy is not beyond reach of any student, I am sure that it is not as easy as some would have us believe and without thorough knowledge of the instrument and proper training no one should attempt its introduction; accidents have been recorded. This part of gastroscopic examination, however, does not present the greatest difficulties to the beginner. Orientation and the proper interpretation of the findings I am sure present the most difficulty and require much more experience. In cystoscopy there is a certain simplicity, a spherical mass is being inspected, but in gastroscopy an organ is being inspected which forms marked angles and in which the planes are curved in a complicated manner so that distances from the objective of the scope are quite varied.

A question which is most frequently asked is whether all parts of the stomach may be inspected by this method. It must be remembered that the gastroscope is constantly in contact with the posterior wall of the stomach and since the mucosa must be at least one-half centimeter from the objective to be visualized there is a narrow strip which is invisible in the standard scope. Rodgers has overcome this recently by using a special sheath which lifts the objective away from the posterior walls. There remains always a small area of the greater curvature directly in front of the scope which is invisible; since the objective looks sidewards this area becomes insignificant in the flexible scope and may be greatly reduced by proper manipulation. A third area lies beyond the angulus toward the pylorus. This area may come in view as the pylorus opens and closes. And lastly a small area of the cardia which lies above the esophageal opening is seldom visible; fortunately, this area is not frequently of clinical importance. It may be seen from this that a rather complete inspection of the gastric cavity may be made if the proper technic of examination at definite levels, as shown by Schindler, is followed.

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*Read before the Orleans Parish Medical Society, October 10, 1938.

PURPOSES OF GASTROSCOPY

There are those who feel that gastroscopy should be a routine procedure on all patients presenting gastrointestinal symptoms. I am convinced, however, that with the present stage of development this specialized examination should be reserved for the cases in which there is suspected lesion, placing it in the same category as cystoscopy which is certainly not indicated in all genito-urinary disturbances. There are certain contraindications which should always be borne in mind, such as, obstruction of the esophagus; marked cardiovascular diseases including angina, cardiac failure, aneurysms; acute abdominal conditions with fever, marked deformities of the spine, corrosive and phlegmonous gastritis, suspected perforation, and severe hemorrhage with patient in shock. There might also be added the thoroughly uncooperative patient since the use of the flexible scope requires some cooperation on his part.

Aside from the fact that it is a matter of great importance that the gastric mucosa be studied in the living subject to increase knowledge of the pathologic processes in this organ, the method of examination has already established clinical value both in diagnostic and therapeutic fields. In carcinoma of the stomach, where radiology and other methods of examination have definitely established a diagnosis, there is no indication for a gastroscopic examination other than to establish the operability of the case, for it is notable that the radiologic appearance of the lesion may be very misleading and the surgeon finds what appears to be a favorable case more or less hopeless. In such instances gastroscopy determines the degree of involvement of the stomach and aids materially in the decision. There are also many instances in which the radiologist is uncertain as to the diagnosis and functional tests unfortunately give very little help. Here gastroscopy finds one of its most useful applications and it may be the means by which unjustified laparotomy and more serious mistakes are averted. Probably one of the most important clinical fields that it opens is the early diagnosis of malignancy. It is unfortunate that with all the refinement in technic and interpretation the x-ray is so limited in its usefulness in very early malignancy of the stomach. I have had the opportunity of observing patients in whom radiologically negative stomachs showed by gastroscopy early malignant lesions and which were proved later by gastric resection. The usefulness of the gastroscope in this field has only been opened and probably one of its greatest contributions will be in the early diagnosis of malignancy.

GASTROSCOPY IN DIAGNOSIS AND TREATMENT

Again in the diagnosis and treatment of gastric ulcer gastroscopy finds a field of much usefulness, particularly in those cases in which a doubt exists; first, as to the existence of a lesion and, second, as to the nature of the lesion. Here a gastroscopic examination can establish the correct diagnosis and indicate the course of treatment. Already considerable evidence has accumulated to show that the gastric mucosal ulceration may be preceded by mucosal hemorrhage and that the chronic ulcer is preceded by an acute ulceration; the difference lies primarily in the time element. Unfortunately, with the most refined mucosal delineations these early mucosal lesions may not be demonstrated by the x-ray and it is only by gastroscopic examination that their presence is made known at this most favorable time.

It is not, however, in the diagnosis of peptic ulcer that the gastroscope is limited. It is often difficult for the clinician to determine whether an ulcer is responding to treatment and it is generally recognized that the x-ray does not always reveal the ulcer but the defect results from the concomitant edema. This having subsided and clinical symptoms being controlled, the physician, as well as the patient, assumes a false sense of security and gastroscopic examination only may accurately determine the condition. Failure of proper response arouses suspicion and operation may be performed at a more favorable time. The postoperative marginal ulcer cases present one of the most difficult problems to the internist and surgeon alike. Unfortunately the x-ray silhouette is most inconclusive here and a direct inspection is of much value. Although the postoperative stomach presents some difficulties in examination, most often a definite diagnosis may be made by the skillful gastroscopist.

It is impossible to discuss detailed gastridities but this almost forgotten disease entity has been brought again to light and its clinical importance cannot be over estimated. It is true that the present state of knowledge concerning this leaves much to hope for and the exact significance of these changes in the gastric mucosa remains one of the major problems. Yet it is only by this method of examination that any concept of disease may be attained.

Another field of investigation which has been opened is the gastric manifestation of allergic disease and already many observations and references have been recorded. Such observations as those by Chevallier may give an answer to the vague digestive complaints of these patients and help to establish the role the gastrointestinal tract plays in allergic manifestations of the skin.

A number of other conditions in which the gastroscope may prove of vast clinical value should be mentioned, such as, vague cases of gastrointestinal disturbances now classified as neurosis, anemias, unexplained gastrointestinal hemorrhage, suspected syphilis of the stomach, and postoperative cases with persistent symptoms. As may be seen, the field of gastroscopy is already quite broad and as experience accumulates its indications may undergo much alteration.

GASTROSCOPY AND RADIOLOGY

The exact relation gastroscopy bears to radiology has provided much comment and I am sure that the advent of radiology retarded the development of the gastroscope, for it was hoped at that time that the much needed answer to the direct inspection of the stomach would be given. Unfortunately only time served to differentiate these two methods and it must be kept in mind that there is no conflict between these very useful methods of examination, that gastroscopy should always maintain its dependence on previous adequate radiology and no patient should be gastroscoped until this roentgenologic examination has been carried out. In x-ray examination shadows are read and silhouettes are interpreted which demonstrate the position, movement, and shape of the stomach and delineate the defects; whereas, the gastroscope is a direct inspection of the mucosa and gives evidence of changes, such as erosion, superficial hemorrhage, inflammation and color changes here which cannot be demonstrated by the present x-ray methods. Either method by itself is incomplete, yet combined offer the most valuable examination at our disposal and results are far beyond what might be hoped for by any functional tests.

SUMMARY

Always with the development of a new method of examination or therapy there follows a wave of enthusiasm which works to the detriment of the method and even in my day I have seen excellent work brought to ill repute by honest but over-zealous individuals. Gastroscopy is in its infancy and its field of usefulness has by no means been defined. I feel that by adopting a consistent and conservative attitude it will develop into one of the most useful methods of examining the gastrointestinal tract since the discovery of x-ray.

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DISCUSSION

Dr. John H. Musser (New Orleans): Necessarily my discussion will have to be very limited as my interest in the subject is entirely academic. I have had no personal experience with the gastroscope. Several years ago I had the opportunity of looking down into the stomach when I was up in Minneapolis and my friend Dr. Carey had two patients he wanted me to see. Both were supposed to have an ulcer. In one patient I could see the ulcer readily but I am free to confess that in the other I could not see anything. As Dr. Browne has said it takes skill to interpret what you see and experience to know what the picture you see means.

In doing gastroscopy there is one contraindication which I do not think he brought out in his discussion, and that is esophageal varices. I believe that is a potent cause for danger. I may be wrong about it but it is very readily conceivable in my mind that the patient with cirrhosis of the liver who has marked esophageal varices might very well have a severe hemorrhage during the passage of the tube.

There is no question but that the use of the gastroscope will become a very frequent adjunct to the armamentarium of the specialist. There are no end of endoscopes but their use must be confined more or less to the men in specialties. It is remarkable when you come to think about it, how the growth of the endoscope has taken place in the last fifty years. There are scopes now that can visualize almost any section of the body, from the laryngoscope to the proctoscope.

Early endoscopes were those which looked into the pleural cavity and the peritoneal cavity. Now we have, in the last few years as a result of some extremely remarkable physical studies by the physicists, a scope with which you can look into the stomach and see the contour, irregularities, hills, mountains and valleys of the stomach wall. I feel sure that the use of the gastroscope will increase. There are very definite indications for its use and very definite results can be obtained by its use. I doubt if it will ever be as popular as the cystoscope, which almost anybody can make use of, but nevertheless I believe there is a great future in the instrument.

I have been told that the lesions most readily observed are those which are large. It is obvious why that should be. The x-ray is much more valuable in finding small lesions, such as small areas of ulceration. Gross lesions are not demonstrable by x-ray but are by the gastroscope.

In closing I want to say that the men who have used the gastroscope have been tremendously enthusiastic about it and most of those men are like Dr. Browne; they have kept their feet on the ground and are not carried away with enthusiasm which they are going to ride to the crest of the wave and then be submerged. I think the men who use it will appreciate more and more its value and it will have a definite but limited place as one of the instruments of precision that belongs to the specialist.

Dr. A. L. Levin (New Orleans): Modern medical science must recognize two important and reliable methods for diagnosis of gastric disease, x-ray and gastroscopy. Of the two, x-ray should be used in every case; gastroscopy for the present, only in selected cases. In spite of the fact that more than a score of years have passed since gastroscopy by the aid of the flexible tube became a reality, and in spite of the reports in recent medical literature from various parts of the country and abroad, New Orleans, the largest medical center in the South, kept aloof from trying it and remained silent regarding its merit. This may be due to: (a) the expense of the original private investment and even more the delicacy of the mechanism of the instrument necessitating frequent repair, and (b) the education of the public not to look upon gastroscopy as a difficult surgical procedure. The last objection will be overcome when the use of it becomes more universal. Regarding expense, a more liberal attitude should be taken by institutions toward the gastroscopist and the patient. I feel quite sure that this will be realized in the near future. Dr. Browne deserves a great deal of credit for his courageous step forward.

Regarding the use of the gastroscope we have by now the assurance of expert gastroscopists that, with a little training and care, it is a perfectly safe and easy method. One must learn to distinguish between normal and diseased mucosa and acquire the skill of orientation in the stomach to recognize parts under observation with the gastroscope in various positions.

The endoscopic study of gastric pathology will no doubt be of great benefit to suffering humanity. Our conception regarding gastritis is being changed. It is not possible to differentiate the various types of chronic gastritis except by the use of the gastroscope. I am a great admirer of a good and careful x-ray study of the gastrointestinal tract but occasionally the radiologist fails to recognize gastric carcinoma, the origin of gastric hemorrhage, ulcer on the posterior wall, systemic lues with gastrointestinal manifestations and various forms of gastritis. The very fact that one is enabled to see the natural pathologic lesion inside the stomach and observe later on the process of healing, should cause gastroscopy to be labeled as a worth while diagnostic procedure. If in addition, by its aid, we are probably assured of recognizing early malignancy, this spectacular method with a grain of thrill in it, stands the chance of becoming a routine procedure in modern medicine.

However the beginner must bear in mind the following contraindications for gastroscopy: obstruction of the esophagus, corrosive gastritis, abdominal rigidity due to peritoneal irritation, fever, angina pectoris, dyspnea, cardiac decompensation, various psychoses, scoliosis and kyphosis, and cardiospasm.

Dr. Donovan C. Browne (In conclusion): I wish again to emphasize that the gastroscope is a very valuable adjunct in studies of the stomach. By a closer cooperation between the roentgenologist and the gastroscopist much valuable information may be obtained and both the physician and the patient will profit.

A PRELIMINARY REPORT ON CHAOUL THERAPY

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The basis of all radiation therapy, no matter whether x-rays or the gamma rays of radium be used, is founded upon the fact that the absorption of radiation by living tissues causes changes in them that may vary in degree anywhere from temporary injury to the tissue cells to cell death. The effects of radiation administered by either of the above agents depend upon several factors such as the total amount of radiation given, the amount and kind of filtration used, the size of the field of administration, the distance between the source of radiation and the tissue irradiated, and the kind of tissue irradiated. If x-rays alone were used, it would be necessary, of course, to consider the amount of kilovoltage used also. It is obvious that a total dosage of radiation may be administered that may vary in degree from having little or no effect on the tissues to causing complete tissue destruction. The work done by Pfahler, Coutard, Quimby, and others has proved that there is a certain amount of recovery of the tissues from the effects of radiation after each treatment is given and, that if a course of treatment be given in fractional doses, a much larger total dosage may be given without permanent injury to the normal, healthy tissues surrounding the field of irradiation.

When small doses are administered at each treatment, and when sufficient rest periods are allowed between consecutive treatments, the total dosage the tissues may stand without damage is many times greater than can be tolerated by one single "massive dose." When deep-seated lesions are treated, and when these lesions are surrounded by normal, healthy tissues through which the radiation must pass, it becomes necessary to modify the beam of radiation in such a way that it does a minimal amount of damage to the healthy tissues, to cause it to penetrate as deeply as necessary, and to obtain as great a transmission of intensity as possible at the required depth. In using radium, this depends upon the amount of radium used, the amount and kind of filtration used, the distance between the radium and the lesion to be treated, the size of the field to be irradiated and the amount of time the radium is to be applied. In using x-rays the factors are similar except that the kilovoltage and milliamperage used must be substituted for the amount of radium used. It is a well known fact that certain tissues can tolerate considerably more radiation than others, and that tissues of embryonal type tolerate, as a rule, less radiation than normal tissues that may surround them so that the effects of radiation on different tissues in the same field should need no further explanation. The above basic facts are mentioned because it is believed that a thorough understanding of these underlying principles is necessary for the comprehension of any type of radiation therapy. No attempt is made to do other than call attention to these factors because it is assumed that every radiologist is thoroughly familiar with them.

There are certain conditions, however, which are located upon the surface of the skin or some accessible mucous membrane, or which can be made accessible by the surgeon, in which the concern of the radiologist should be directed toward the elimination of the diseased tissue and the attempt to spare the healthy tissue at the base to as great an extent as possible. Lesions of this type should extend only a few centimeters deep and should, as a rule, have no healthy tissue above them that need be spared. As only the healthy tissue underneath the diseased area need be considered in conditions of this kind, it is apparent that efforts should be directed toward trying to obtain the smallest possible radiation intensity in the healthy base, while at the surface and throughout the diseased tissue the dosage of radiation should be as great as possible in an attempt to destroy the affected area. It follows then that radiation therapy of lesions of this type should, contrary to the requirements of deep therapy, give a very heavy surface intensity and yet give a small percentage depth dose.

The radiologic requirements are essentially the same as those possessed by radium, and it was with the idea of obtaining a suitable substitute for radium that contact (Chaoul) x-ray therapy machines were developed. While these machines have not fulfilled all of the uses met by radium because of the relatively large size of the x-ray tube as compared to radium needles or other types of small radium applicators and their resultant inability to reach certain lesions difficult of access, they seem to fulfill the requirements they were designed to meet as well as radium, and they have the additional advantages of being operated with a very simple, uncomplicated technic, of not being nearly so dangerous as radium for the operator to handle, of affording a directional beam of radiation that does not give unwanted radiation to the surrounding healthy tissues that may be excluded from the field of irradiation, of giving the desired amount of radiation in terms of seconds or minutes as compared to the hours or days required by radium, of being less expensive than radium, and of not requiring a heavily protected storage safe. It is obvious that there is less likelihood of one losing an x-ray machine than a radium needle or some other type of small radium container. So, while Chaoul x-ray machines cannot and should not entirely replace radium in the armamentarium of the radiologist, they are a most useful adjunct for radiologic treatment and, where they can be used, are probably preferable to radium.

In the light of work done abroad, principally in Germany where radium is very scarce and very expensive, it may safely be assumed that the results obtained by using radium on superficial or accessible lesions is not due to its short wave length, but rather to the distribution of its dose in the tissues. With this dose distribution in mind it was found necessary to construct x-ray tubes that would give similar distributions of intensity as radium, and to do this it was determined that the x-rays given off by such a tube must be "soft" in nature; that is, long enough so that they might not penetrate the tissues too deeply and yet would produce the desired destructive effects in living cells. It was also found that the inherent filtration in the x-ray tube should be as small as possible in order to permit the passage of as great an amount of x-rays as possible and to have a minimal effect on the wave lengths produced. To accomplish this it was determined that the correct kilovoltage necessary to produce this type of radiation which approximated the distribution of the gamma rays of radium was between 50 kv. and 60 kv. Kilovoltages less than 50 kv. were found not to penetrate deeply enough in the tissues and to give too small a percentage in the depth dose, while kilovoltages in excess of 60 kv. produced too much penetration and too great a percentage of increase in the depth dose. As is true in the case of radium, it was determined that the less the distance between the source of radiation and the skin, the more rapid was the decline in the depth dosage in the tissues; and the greater the source-skin distance, the greater was the percentage depth dose.

Because of the obvious desirability of a very short target-skin distance for this type of therapy, and because it was impossible to obtain such very short distances with the conventional type x-ray tubes, it was necessary that an entirely new type of x-ray tube be developed for this purpose. This has been accomplished by the construction of shockproof x-ray tubes which allow the target to be brought as close as 18 millimeters from the area to be irradiated. Two such x-ray tubes are made today, one by a German concern, the other by a manufacturer in Holland. Both of these tubes have the required short target-skin distance, and both are so made that they may be inserted into natural cavities in the body such as the mouth, vagina, and rectum, or into wounds laid open by the surgeon in order to treat exposed lesions. One of these tubes is water cooled, the other is cooled by a forced stream of air. The working distances of these tubes will permit of target-skin distances ranging from as close as 18 millimeters up to some six or seven centimeters.

CONDITIONS AMENABLE TO TREATMENT

It may readily be seen that any type of new growth of the skin, the accessible mucous membranes, or those lesions made available by surgical assistance may be successfully treated by means of the Chaoul method if the lesions be of those types that may be successfully treated by means of either x-rays or radium. Such conditions as carcinoma of the skin, lips, tongue, basal cell carcinoma, malignant melanoma, and adenocarcinoma of the secretory glands of the skin have been reported as successfully treated with the Chaoul machine by van der Plaats[1]. He also reports successful results in the treatment of carcinomas of the rectum and in those cases of carcinoma of the cervix uteri where the disease is superficially located. At the present time I am treating a patient who has had a complete hysterectomy but who has a recurrent carcinoma in the cervical stump that was left. This treatment is being administered by means of the Chaoul machine, and I have found it to be a much simpler procedure and considerably less difficult than applications of radium have been in previous patients suffering from the same condition. Excellent results following this type of treatment to such benign conditions as keloids, warts and hemangiomas, as well as certain types of infections such as tonsillitides and iridocyclitides, have also been reported by van der Plaats. Work now in progress by the group[2] at Memorial Hospital in New York City would seem to indicate that there is a probability that such conditions as carcinoma of the stomach, and perhaps of certain other internal organs, may be successfully treated when the organs are exposed surgically.

DOSAGE

The first cases treated by the Chaoul method were all treated by the fractional dose method, the daily doses ranging from 300 to 500 r until total doses of 6000 to 10,000 r were administered. Den Hoed[3] reports giving the entire dose in one treatment with good results. While the results obtained in my office are too recent to draw conclusions, the reactions obtained in the treatment of epitheliomas of the skin, keloids, warts, and hemangiomas have closely paralleled the reactions I have obtained in the treatment of similar conditions by radium. In a few instances I have given the entire amount of radiation by a single "massive dose" and, while my single dose of 5000 to 7500 r is less than that used by den Hoed, the early results obtained on those patients who have now had time for their lesions to heal have apparently been as good to date as was the case in similar lesions treated by radium in the past. The reactions in these patients have been more severe than in those cases where the fractional method of Chaoul therapy was used but the reactions have been only local and the final results seem to have been the same in both the fractional and massive doses.

SUMMARY

The premises upon which Chaoul therapy are based are as follows:

1. Clinically, there is no difference in the effects of x-rays generated at 50 kv. to 60 kv. and the gamma rays of radium, the important factor being the energy absorbed per cubic centimeter.
2. The surrounding healthy tissue and that at the base of the lesion should be spared irradiation as much as possible in order to facilitate healing.
3. The dose distribution of x-radiation in the tissue when small target-skin distances are used is similar to that obtained by the use of radium on the surface.
4. The doses of x-rays administered should be as high as those used in radium therapy.
5. The high r-output of the x-ray apparatus permits of very rapid administration of the desired dosage.
6. The expense involved in the purchase or use of the apparatus is not as great as that of radium.

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CHRONIC ULCERATIVE COLITIS

A DIAGNOSTIC AND THERAPEUTIC PROBLEM*

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The etiology of ulcerative colitis is still an unsolved problem. Many causes have been suggested but no common cause which will explain all cases has ever been found. In that fact, perhaps, lies one of the chief reasons why the treatment of this condition is still unsatisfactory. We cannot expect to formulate a rational plan of therapy for a disease in which the relative importance of primary and secondary causative factors cannot be properly evaluated. In 1933, one of us (A. L. L.)[1] made the statement that chronic ulcerative colitis represented an unknown and inexplicable problem. Because it is still an unknown and inexplicable problem we are making our present report.

It has been variously suggested that ulcerative colitis is of streptococcal origin, is a post-dysenteric state, is an allergic manifestation, is psychogenic in origin, and is a virus-inducted disease. We shall comment briefly upon these various theories.

In 1930 Bargen[2] reported a streptococcus isolated from lesions of ulcerative colitis which he described as a diplostreptococcus. This is undoubtedly a very important observation even though the present weight of bacteriologic evidence is against the concept of the Bargen bacillus as a definite entity. It has by no means been proved that streptococci or their toxins are the primary causative agents which initiate the disease. They should rather be regarded as one of the most important and most frequent secondary invaders which serve to perpetuate changes in the bowel wall. In spite of these facts however, much of the recent progress in the study of this disease may be attributed to the impetus provided by Bargen's researches.

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Kessel,[3] after careful study of fermentation reactions of streptococci isolated from the bowel wall, subdivided them into three species, *Str. fecalis, Str. mitis, and Str. salvarius*, and came to the conclusion that the organism described by Bargen may belong to any one of them. In his opinion there seems to be no reason to regard Bargen's diplostreptococcus as essentially different from other types of alpha streptococci commonly recovered from the human alimentary tract.

Paulson,[4] in a study of 14 causes of ulcerative colitis, found as judged by their cultural reactions, no less than 10 different types of streptococci. These organisms as well as similar types isolated from other diseases produced lesions in the bowel wall of rabbits following intravenous inoculation. Mones and Sonjaun[5] were able to isolate streptococci in 30 per cent of their cases of ulcerative colitis, but found them also in 25 per cent of their controls. Using filtrates prepared from cultures obtained from the lesions of ulcerative colitis, they were able to produce bowel lesions in a large percentage of rabbits and dogs. Their findings, however, are no more convincing than the findings of the majority of those who have investigated this special phase of the problem.

It is significant in this connection that the number of cocci in the stools of normal persons can be enormously increased by the use of laxatives. The bloody culture medium afforded organisms in the bowel of patients with ulcerative colitis may conceivably act in two ways, by encouraging the growth of streptococci and by inhibiting the growth and multiplication of other organisms.

The relationship existing between chronic bacillary dysentery and chronic ulcerative colitis is even more difficult to distinguish at the bedside. Certain differences between them, furthermore, remain entirely unexplained. For instance, acute bacillary dysentery begins abruptly, but ulcerative colitis in a large number of cases begins insidiously. Ulcerative colitis is non-infectious, but bacillary dysentery often occurs in epidemic form. Finally, bacillary dysentery is more common during infancy and is distributed approximately equally between the sexes, but ulcerative colitis is a disease of adult life and is far more frequent in women than in men.

Felsen[6, 7] is perhaps the most ardent advocate of the theory that chronic bacillary dysentery blends imperceptibly with chronic ulcerative colitis. He reports seven cases in which, over periods ranging up to one year, acute bacillary dysentery was followed by the typical findings of ulcerative colitis. Many other observers explain the apparent cause and effect relationship on the theory that bacillary dysentery may be an antecedent disease which leaves the bowel wall susceptible to further invasion. Felsen believes that this phase of the problem can be solved by a more careful follow-up of all cases of acute dysentery and a more careful study of atypical cases of ulcerative colitis in the acute stages.

Laboratory studies are not conclusive. Winkelstein,[8, 9] in 11 per cent of his cases of ulcerative colitis, found positive stool cultures for the dysentery bacillus, and a diagnostic blood agglutination in 20 per cent. Mackie,[10] in a controlled study of 83 consecutive cases, found cultural or serologic evidence of bacillary dysentery in 42 per cent. Penner,[11] who mentions that Fletcher and Mackinnon were able to isolate the organism in only 38 per cent of their cases, is one of many to emphasize the technical difficulties which make isolation of the bacillus and demonstration of diagnostic blood agglutination titers rather unsatisfactory methods at best to determine the presence of antecedent or continued infection with this strain.

One could not duplicate these reported results by ordinary studies. Repeated attempts to cultivate the organism are necessary. In one instance, we made cultures for 18 consecutive weeks, the material being secured through the sigmoidoscope, before the dysentery bacillus could be recovered. It is significant that during the World War only one-third of the cases of dysentery presented positive cultures, and it must be remembered also that the ability to recover the bacillus on culture varies inversely with the length of the disease. Furthermore, many workers agree that a positive agglutination does not necessarily mean infection by this organism, and that a negative report does not exclude the possibility.

More extensive studies in skin sensitivity to the bacillus of dysentery may result in a practical skin test which can be applied to the solution of this problem. We cannot at present accept bacillary dysentery as the etiologic basis of all cases of ulcerative colitis but, on the other hand, there seems little doubt that some cases which are now labeled chronic ulcerative colitis are really the end stage of an antecedent dysenteric infection.

Lups[12] reports that Auba, Schmidt, and Lohrish frequently found eosinophils and Charcot-Leyden crystals in smears from the bowel walls of patients with ulcerative colitis. He does not state what significance these investigators attached to this finding, and many other authors have omitted it from consideration, but that ulcerative colitis is an allergic manifestation, at least in some cases, is now a rather generally accepted theory. Gay,[13] for instance, reports a case in which mucus colitis associated with polyposis of the colon disappeared after proper dietary control, and suggests that the intestinal polyposis which is so common a finding in advanced ulcerative colitis may be compared with nasal polypi. Cave and Mackie,[41] by the use of the test diet method, revealed evidence of food sensitization in 51 per cent of their cases of ulcerative colitis; focal reaction to autogenous vaccines frequently occurred and in their opinion represented sensitization to bacterial protein. Our own experiences, combined with the observations in the literature, have convinced us that every patient with ulcerative colitis should be subjected to a complete allergic survey.

The importance of psychogenic factors, although generally granted, remains a subject for further study. Sullivan[15], in a recent report of 15 cases of ulcerative colitis, found a close relationship between emotional disturbances and the onset of bloody diarrhea. It remains to be determined, however, whether the well defined clinical picture of this disease can be produced by a primary nervous diarrhea associated with secondary bacterial invasion. Regardless of this uncertainty, the mental state of these patients cannot be ignored, for mental as well as physical rest is an important therapeutic measure.

The suggestion of Paulson[16], that ulcerative colitis is a virus-inducted disease, introduces a new etiologic concept. Because some of his patients, both with and without rectal stricture, presented a positive Frei test, he prepared antigens from the ulcerative lesions and obtained suggestive results by intradermal testing. Further refinement in the preparation of the antigens may result in the demonstration of a group of cases of ulcerative colitis which are virus-induced.

PROGNOSIS AND DURATION

The prognosis of ulcerative colitis as based on a survey of the results of treatment is far from hopeful. It is generally agreed that the percentage of patients who are permanently cured and who exhibit no evidence of disabling sequelae is not very large. Marnham (quoted by Bargen)[17] reported 130 cases treated medically during the years 1925-1929 with a mortality of 40 per cent, and 84 patients treated surgically over the same period with a mortality of 44 per cent. The mortality in 120 of the surviving patients who were traced after dismissal from the hospital was 49.2 per cent.

Kiefer[18] found that 45 per cent of 55 patients followed up after discharge exhibited unsatisfactory results from treatment, and Crohn and Rosenak[19], who followed 75 patients from six months to 14 years, found 26 per cent unimproved or dead. At least part of the mortality and of the unsatisfactory results of treatment may be due to the fact that many patients are prematurely discharged from observation while active intestinal ulceration is still present. Smith[20] reports one such case, in which clinical remission was followed some months later by sudden perforation and prompt death from general peritonitis.

The duration of the disease bears a definite relationship to the results of treatment, and there is no doubt that the ultimate mortality increases greatly after the two-year period. Opinions may differ, but we personally feel that Winkelstein[8] is not far wrong when he says that it is doubtful whether a patient with severe ulcerative colitis of undetermined etiology ever recovers entirely and remains permanently well. The commonest causes of relapse are psychogenic factors, upper respiratory tract infections, failure of the patient to observe the regimen laid down for him, and, possibly, reactivation of foci of infection.

CRITERIA OF DIAGNOSIS

A better understanding of chronic ulcerative colitis and a more critical analysis of the results of therapy would undoubtedly follow if every patient who presented this clinical picture were carefully studied and were classified by universally adopted standards. If proper classification has enhanced our knowledge of heart disease, tuberculosis, and rheumatic diseases, and has thereby improved our therapy, the same line of reasoning should certainly apply to ulcerative colitis. We suggest that three factors be carefully evaluated in each case: The degree of toxicity as determined by the presence of fever, the Schilling count, the sedimentation rate, and constitutional symptoms; the duration, in terms of less than a year, one to two years, and more than two years; and the complications present, chiefly rectal stricture, rectal stenosis, rectal fistula, rectal abscess, intestinal polyposis, and avitaminosis. The results of therapy should be determined with equal care, and the term "cure" should not be employed unless the patient has been observed over a period of several years and has been completely relieved of his symptoms.

All of us in the past have sometimes been guilty of diagnosing and treating chronic ulcerative colitis on the basis of symptomatology and proctoscopic study alone. This is entirely insufficient. Reports of cases which have been completely studied and carefully followed up are not only desirable but absolutely necessary for the full comprehension of this most interesting and serious intestinal disorder.

The minimum requirements for diagnosis seem to us to be: (1) The history, with particular reference to the presence of fever; weight loss in percentage of the usual weight; the character of the rectal discharge; the amount of the blood loss, the presence of pus and mucus and the consistency of the stool; and evidence of deficiency states.

(2) Physical findings, with particular reference to tenderness over the colon.

(3) Rectal examination, with particular reference to narrowing of the bowel, the presence of polypi, and the state of the mucosa.

(4) Proctoscopic study.

(5) Full psychiatric investigation.

(6) An allergic survey, including a skin test, food diary, and trial elimination diets.

(7) X-ray examination of the entire gastrointestinal tract, including the use of a barium enema.

(8) Laboratory tests including:
  a. Frei test.
  b. Search for *E. histolytica* by direct methods and by cultivation.
  c. Agglutination test and culture for bacillary dysentery.
  d. Culture from other organisms.
  e. Hematologic studies.

The importance of the blood picture in chronic ulcerative colitis cannot be overestimated. The findings have been well presented by Garvin and Bargen[21], who point out that there is almost invariably a hypochromic anemia and that all the factors which tend to produce this type of anemia operate in this disease, chiefly loss of blood, an inadequate intake of iron, and chronic sepsis. Leukocytosis is rarely found in the absence of complications. An extremely high percentage of non-segmented neutrophils characterizes the active stage of the disease, and the sedimentation rate parallels the Schilling count in its significance. A careful evaluation of these hematologic findings is as valuable in chronic ulcerative colitis as it is in other infectious processes.

THERAPY

There is no standardized plan of treatment for chronic ulcerative colitis. The many remedies which have been proposed deserve further trial in carefully studied, accurately classified, and well followed-up series of cases. At present, however, entire reliance cannot be placed upon any one plan. It seems scarcely necessary to add that the success of treatment depends, to a large extent, upon the time at which the patient is seen. There is, naturally, a more rapid response to therapeutic measures early in the disease than when it has existed for a long period of time and when marked anatomic deformities, alterations of physiologic function, and systemic manifestations have occurred. Rest and some form of dietary regulation still remain the most satisfactory plan of treatment, but other measures which hold some degree of promise may be briefly mentioned.

(1) Bargen's serum and vaccine: No convincing evidence as to the value of this method has yet been presented. The question to be decided is whether such benefit as does accrue from it is inherent or is due to the non-specific foreign protein reaction which it causes. The latter theory seems the more probable since Bargen himself has reported that improvement usually parallels the local or systemic reaction to the serum.

(2) Antidysenteric serum: Opinions as to the value of this method are again widely divided. Favorable results, however, have been reported by Hurst[22] and Winkelstein[8].

(3) Diet: Even though it is generally agreed that dietary control is an important consideration in the treatment of these patients, there is still some discussion as to the type of diet. A high caloric, high vitamin diet, with a low roughage content, is usually advised. A dissenting opinion comes from Burnford (quoted by Bargen)[17], who does not consider roughage harmful and desires the colon to contain soft, pulpy material. Whatever plan of diet is adopted, food allergy should be kept in mind.

(4) Transfusions: There is no doubt that this measure should be used frequently to combat the anemia present. That it may sometimes exert dramatic effects on the course of the disease is attested by Winkelstein[8] and by Manson-Bahr (quoted by Bargen)[17].

(5) Aluminum hydroxide and kaolin: This combination has been employed by Eyerly and Breuhaus[23], who report good results in six patients in whom all other measures had failed. Equal parts of these drugs are used to make up a retention enema (6 to 10 oz.), which is retained as long as possible.

(6) Hyperthermy: Ferguson and his associates[24] report five patients in whom this method brought prompt relief. The Kettering hypertherm was used for a period of two or three hours, three times a week, at a rectal temperature of 104 to 105° F. On the basis of the reported results of therapeutic measures accompanied by febrile reactions this method deserves further trial.

(7) Neoprontosil: Brown, Herrell, and Bargen[25] employed this agent in 16 cases, sometimes in association with other measures with very favorable results. Some of these cases were very severe. Neoprontosil was administered by mouth in doses of 4 to 5.32 grams every 24 hours, over a period of 10 to 14 days, and in some patients 2.64 grams was administered daily for a longer period. The treatment was repeated if indications warranted it, and in two patients the therapy was continued intermittently for a period of 10 months. In contrast to their experiences with sulfanilamide, there were no toxic effects and no fatalities.

(8) Surgery: Chronic ulcerative colitis is not, *per se*, a surgical disease, but no discussion of it would be complete without reference to surgical management. Surgery, however, is always the last resort, and should be employed only on special indica-

tions. Winkelstein[8] summarizes them very well:

a. Perforation.
b. Localized hypertrophic lesions.
c. A rapid, down-hill course in acute cases.
d. Complications in chronic cases such as massive hemorrhage, stricture, polyposis, perirectal sinuses and suppurations, and perisigmoidal suppuration.

We agree with Cave[26] that ileostomy is not curative. It may be life-saving, however, in fulminating cases, in which there is rapid down-hill progress. It carries a high mortality, not in itself but because it is usually done on patients who are poor surgical risks. Partial or complete colectomy would be the ideal surgical method of attack. It has a prohibitive mortality, but in a few cases has resulted in brilliant cures.

CASE REPORTS

Case reports are appended to illustrate various etiologic and therapeutic considerations.

Case 1. V. C., white male, 38 years of age, complained of intermittent diarrhea over a ten year period. The attacks lasted from a few days to several weeks and were aggravated during the summer months. There had been occasional mucus but no blood in the stools. He had two to four liquid or semi-formed movements a day, accompanied by considerable tenesmus, cramp-like pain in the lower abdomen, and much flatus. He complained of occasional dyspeptic symptoms. In 1930 he had been treated for amebiasis, but repeated stool examinations since that time had failed to reveal E. histolytica. His appendix had been removed in 1932. There was no clinical evidence of allergy in the family.

Physical examination was negative except for tenderness over the left colon during attacks of diarrhea. X-ray examination showed considerable spasticity of the descending colon with no loss of haustration. These were the only significant findings.

The patient was lost sight of for some months, and on his return complained of diarrhea for the past two months. Then, for the first time, he told us he had noticed that he had no symptoms as long as he remained on a limited diet. He knew that tomatoes, asparagus, and oranges disagreed with him, that spices definitely caused symptoms, and that beer had apparently been responsible for the last attack.

Tests with food allergens by the scratch and intradermal methods gave positive reactions for garlic, malt, oranges, black pepper, white potatoes, chocolate, corn, pork, asparagus, turnips, and tomatoes. Proctoscopic examination revealed an edematous mucous membrane without ulceration. No exudate was visible but smears were made and stained by Wright's method; no eosinophils were seen.

There has not been sufficient time to institute an adequate dietary trial in this case, but the history of definitely known food disagreements together with positive skin reactions to these allergens leaves little doubt that this is a case of allergic colitis with no other manifestations of allergy. It clearly failed to meet the diagnostic requirements of chronic ulcerative colitis because of the mild symptomatology and the absence of typical proctoscopic and roentgenologic findings. If mucosal relief studies had been made, colonic ulceration might perhaps have been demonstrated. In the past such a case would probably have been classified as irritable colon. It may be that cases of this type will supply the missing link which has been sought for in the etiology of ulcerative colitis; the present condition may be a prelude to this disease.

Case 2. D. G., a negro female, developed diarrhea in 1933. At this time she had nine to twelve bowel movements a day, with blood and mucus in the stools. She was treated with emetine and anayodin after amebae had been found. Two months later abdominal cramps and bloody stools recurred. These symptoms continued over a period of two years and were associated with nausea, dyspeptic symptoms, and a loss of 22 pounds in weight. Proctoscopic examination disclosed a mucosa which was friable and bled easily; many extensive superficial ulcerations were visible. Smears were negative for parasites. Blood study revealed a moderate hypochromic anemia. For the next two years, in spite of numerous therapeutic measures, attacks of the same kind recurred at intervals, and during one of them smears were made from the greenish exudate which covered the mucosa. Eosinophils and erythrocytes were identified with Wright's stain. With careful attention to diet she has remained symptom-free for a year, and the mucosa of the bowel has healed completely. Attempts to add milk and orange juice to the diet, however, always aggravate the symptoms.

The chronicity and severity of the symptoms, in spite of antiamebic therapy, make it clear that in this case, although E. histolytica was identified, it is not the sole cause. The extensive rectal ulceration justifies the diagnosis of chronic ulcerative colitis and the finding of eosinophils in rectal smears plus the history of food disagreements justifies the assumption that food allergy is an etiologic factor.

Case 3. Mrs. L. P., a white female, 22 years of age, developed diarrhea in 1935. There were 12 to 20 watery stools daily, which frequently contained blood and mucus, and at times pure blood was passed. Colicky abdominal pain and tenesmus were very troublesome. There was afternoon fever and a loss of 15 pounds in weight. When the patient was first seen, the spleen was palpable; the rectal mucosa was friable and bled easily, and on proctoscopic examination appeared reddened and edematous.

Blood study disclosed a hypochromic anemia. The stool was negative for parasites and on culture showed no dysentery bacilli. The blood agglutination reaction was strongly positive for B. dysenteriae.

A month after the patient was first seen she developed edema of the lower extremities. She deserted from the hospital a few days later. In August of the same year (1935) she returned with a more marked degree of anemia, some ascites, a daily evening temperature elevation of 100 to 101° F., and a marked aggravation of the diarrhea.

Gastrointestinal series showed a normal stomach and duodenum. In six hours the barium was in the small intestine and in 24 hours it had been completely evacuated. Examination with a barium enema showed complete loss of haustrations throughout the colon, with shortening and rigidity of the wall, and an extensive mottled appearance suggestive of polyposis.

There was gradual improvement of all symptoms following routine therapy plus intradermal injection of Hiss vaccine, and she was perfectly well for a year. In January, 1937, following an attack of influenza, all of the former severe symptoms recurred. Physical examination revealed a considerable degree of tenderness along the colon, and ascites and edema of the lower extremities. Gastric analysis and Wassermann reaction were negative, as was an x-ray examination of the chest. The red count was 3,880,000 and the hemoglobin 55 per cent; the smear showed no achromia. A positive agglutination for B. dysenteriae Flexner was reported at 1:320.

The temperature rose every day to 102 or 103° F. Thrombosed hemorrhoids developed while the patient was under observation, and were followed by a large perirectal abscess which required incision; after a large amount of pus had been evacuated, clinical improvement was rapid and symptoms promptly disappeared.

For the past year this patient has suffered from constipation and abdominal distention, alternating about every two weeks with a brief period of diarrhea, abdominal cramps, and bloody stools. There has been no fever. Her weight has risen from 92 pounds at the time of her discharge from the hospital in 1937 to 142 pounds. The recent diarrheal attacks have frequently followed the eating of fish and shrimp. Close questioning has revealed that this patient suffered from winter hay fever in her childhood and that her father has had hay fever for years.

A recent proctoscopic examination revealed extensive polyposis with a mucoid exudate. The mucosa bled easily on examination. Smears stained by Wright's method showed numerous eosinophils. A complete blood study showed 4,160,000 red blood cells; 79 per cent hemoglobin; 29 per cent lymphocytes, 62 per cent neutrophils, 5 per cent eosinophils, 1 per cent basophils, and 3 per cent monocytes. The Schilling count and sedimentation rate were normal. Examination with a barium enema showed the cecum, ascending colon and transverse colon to be normal. The descending colon and sigmoid showed much narrowing and extensive polyposis throughout.

Scratch and intradermal tests with various foods were all negative, but the patient has been instructed to keep a food diary, so that further studies may be made of the effect of food on her symptoms.

COMMENT

This patient presents the typical clinical picture and course of chronic non-specific ulcerative colitis. The three remissions and the development of edema and ascites attributable to hypoproteinemia are interesting. The second attack was apparently precipitated, as is frequently the case, by an upper respiratory infection. The final remission, we are inclined to believe, was due not so much to therapy as to the perirectal abscess and the associated high fever. The dramatically prompt clinical recovery after this complication suggests the occasional similar effect of foreign protein therapy.

No psychogenic factors could be elicited in the study of this patient. It is impossible to evaluate definitely the role of bacillary dysentery; the positive agglutination for two different strains on two different occasions throws doubt on its cause and importance. It must be remembered, too, that a positive agglutination is little more than suggestive. At present all the evidence points towards food allergy as the cause of this condition. In this case the demonstration of eosinophils from the rectal mucosa should be as diagnostic of allergy as their demonstration in the nasal mucosa or sputum. The positive family history and the antecedent story of a probable allergic rhinitis add to the evidence. There is no doubt that an allergic investigation upon this patient should have been undertaken much earlier in the course of treatment. The extensive polyposis which she has developed may still require surgical intervention.

Case 4. Mrs. L. W., a white female, 47 years of age, was first seen September 7, 1938. Diarrhea had developed ten months before, while she was living in the Rio Grande Valley. She could recall no precipitating factors. For six months the attacks were intermittent, then they became more severe. When she was first seen she was having 10 to 12 stools every 24 hours. The stools were liquid, had a very offensive odor, contained much mucus, and, on several occasions, streaks of blood. She had lost 31 pounds in weight and had become afraid to eat for fear of aggravating the diarrhea.

Proctoscopic examination revealed marked pathologic changes as high as the sigmoid. The mucous membrane was thickened, edematous, and moderately injected. It was very friable and bled freely on manipulation; numerous petechiae could be seen. There were also many shallow ulcers whose bases were covered by yellowish, purulent exudate. The edges were not undermined or thickened. Smears from these lesions revealed only pus and red cells; no vegetative amebae were identified.

Gastric analysis was normal except for a faint trace of occult blood. Several stool examinations failed to disclose parasites. The first blood agglutination was reported positive for B. dysenteriae Flexner in dilution of 1:120; a subsequent test was negative for the entire dysentery group.

The patient was treated by rest in bed, dietary regulation, iron in the form of Blaud's pills, and kaomagma, (½ oz. every three hours). At the end of the month the stools had been reduced to three or four in the 24 hour period and showed some tendency to formation. Other symptoms were much improved. Proctoscopic examination showed a few ulcerations and petechiae still present, and the bowel wall was very friable. Roentgenologic examination with a barium enema showed marked tubulization, narrowing, and shortening of the entire large bowel, suggestive of chronic ulcerative colitis. A recent culture from the bowel was negative for the bacilli of dysentery. A complete blood study showed 3,215,000 red blood cells; a hematocrit reading of 32.5 per cent; 65 per cent hemoglobin, 4,970 white blood cells; 40 per cent lymphocytes; 7 per cent monocytes; 49 per cent neutrophils; 3 per cent eosinophils; 1 per cent basophils. There were 32 per cent stab forms and 4 per cent juveniles. The red cell sedimentation rate by the Wintrobe method corrected for anemia was 42 mm. in one hour.

At this time the patient was given daily 300 mg. of nicotinic acid by mouth together with a vitamin B extract. Other therapy was continued. At the end of a month the stools numbered two to four per day, were soft, and did not contain blood, mucus, or pus. Her appetite was excellent, and she had gained weight. Proctoscopic examination disclosed an apparently normal rectal mucosa. Rectal smears stained with Wright's stain did not show eosinophils. The hematocrit reading was 33.5 per cent and the sedimentation rate corrected for anemia was 31 mm. per hour. A Schilling hemogram showed 45 per cent lymphocytes, 4 per cent monocytes, 16 per cent segmented neutrophils, 4 per cent eosinophils, 2 per cent basophils, and 29 per cent stab forms.

COMMENT

The findings in this case are typical of chronic ulcerative colitis. The response to therapy has been rather encouraging. The nicotinic acid therapy was associated with gradual rather than dramatic clinical improvement but we still feel that this drug should be more frequently employed, both because of the secondary avitaminosis always present in such cases and because of its effect on the healing of the lesion of the mucous membrane. Psychic trauma may have been of some importance, both in initiating and continuing the disease processes; there was no suspicion of allergy. It is noteworthy that a rapid sedimentation rate and marked Schilling-shift persisted. The repetition of these laboratory tests should prove valuable in indicating when stringent regulations may safely be discontinued.

Case 5. A. W. P., a white male 47 years of age, presented himself with a story of intermittent diarrhea for the past 12 years. In 1926 one episode had lasted for seven months. For the next eight years, there had been occasional episodes lasting only a few days. In 1934 there had been a very serious attack associated with frequent stools containing mucus and blood, abdominal cramps, and a marked loss of weight. In 1936 he had spent several weeks in the hospital and had gradually improved under treatment with dysentery vaccine; the diagnosis at this time was bacillary dysentery, ulcerative colitis, and anemia. After his discharge he continued to improve until the latter part of 1937. Then all of his symptoms gradually grew worse; for months there had been afternoon fever, he had lost a great deal of weight, and there were streaks and clots of blood in the stools.

Physical examination was negative except for marked emaciation, and tenderness over the entire colon. Blood studies showed 2,690,000 red blood cells; 39 per cent hemoglobin; 9,500 leukocytes; 20 per cent lymphocytes; 3 per cent monocytes; 76 per cent neutrophils; and 1 per cent eosinophils. The blood agglutination was reported positive for B. dysenteriae Flexner at 1:1280. Examination with a barium enema showed an advanced colitis with extensive ulceration and polyposis. Other laboratory studies were essentially negative.

After careful preparation ileosigmoidostomy was done. The patient died a few days later.

COMMENT

It seems probable that in this case the etiologic factor was bacillary dysentery. It represents the severe fatal form of the disease. Death followed operation but would certainly have taken place under continued medical treatment. If this patient could have been seen in the early stage of his disease the fatal outcome might, perhaps, have been prevented by long-continued observation and treatment. As we have already pointed out, many patients are dismissed from observation too soon after the onset of a clinical remission and before laboratory findings indicate that the process is quiescent.

SUMMARY AND CONCLUSIONS

1. No single cause of chronic non-specific ulcerative colitis has yet been identified. Bacillary dysentery, food allegry, and possibly some virus are important etiologic factors. The streptococcus probably represents a secondary invader of the bowel wall.

2. A simple method of classification is proposed.

3. The methods by which these cases should be studied are outlined.

4. A search for eosinophils in the rectal exudate should be made in all cases. Their demonstration probably has the same significance as in the nasal secretion in the sputum.

5. Promising therapeutic measures include Bargen's serum, antidysenteric serum, dietary control, transfusions, aluminum hydroxide and kaolin by rectum, fever therapy, and neoprontosil. Surgical measures should be a last resort. The seriousness of this disease makes it imperative that any reasonable new measure should be tried which might bring about a clinical remission.

6. Five cases are reported, three of which suggest a definite causative relationship between food allergy and chronic ulcerative colitis. In one case, nicotinic acid seemed to prove a useful therapeutic adjunct.

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DISCUSSION

Dr. J. T. Nix (New Orleans): To begin with, the surgical phase of chronic ulcerative colitis holds a very important place in treatment at this time. Realizing the small and limited experience that every surgeon has in the treatment of chronic ulcerative colitis and realizing how few times I have been called upon to treat these cases surgically, I thought something was wrong in the way they had been handled, and therefore I resorted to a careful study of the literature.

Dr. Levin quoted in measure from the 1934 Annual of the Mayo Clinic, a review representing a study of ten years of chronic ulcerative colitis. In that time 1,348 cases were treated at the Mayo Clinic. Of these 898 patients, or about 66 per cent, according to the statement of Dr. Bargen, received favorable results and in most instances were cured by medical treatment such as is given to tubercular patients; rest of the part. During the first year 57 patients appeared and 15 per cent were operated on. During the last year of this ten year survey 202 patients were observed but only two were operated upon. This shows how they are getting away from surgical procedures at the Mayo Clinic, less than one per cent having gone to operation during the last year.

The operation described is ileostomy. I saw no description of any attempt to remove the colon. There is another article, however, by Henry Cave, which is most enlightening. He believes that medical cures are extremely small. He believes that the cure of chronic ulcerative colitis is by removal of the section of the bowel which is diseased, not necessarily a total colectomy but partial colectomy. He has had good results in a small series of cases.

I think everyone is agreed that they are not certain as to any specificity of the organism. Surely we do not know etiologic factors entirely producing ulcerative colitis. Complications such as perforation and hemorrhage call for surgical intervention. Surgery at the present time, I think, should not be considered at all until medical treatment has been thoroughly tried. We know that these cases last over a period of several years; however, I do not think surgery should be the last resort. I do think the reason why surgery so often fails is because it is so frequently considered the last resort. I believe, with Cave, that in certain cases a partial colectomy performed, not as a one stage operation, but as Cave suggests, three or four stages, carrying your patient along gradually with transfusions, will give a larger per cent of cures. Cave suggests first an ileostomy. The second operation is the removal of the ascending and transverse colon; and third, completion of the operation with possible removal of the descending colon, sigmoid and rectum, with long intervals between. Transfusions, proper diet, and rest, should supplement the surgery. The treatments recommended in the past by some, appendicostomy and colectomy, I believe are based on false premises, probably because we want the bowel to rest. If surgery at all is offered, it should be an ileostomy. Appendicostomy with sigmoidostomy and irrigation of the bowel sometimes does more harm than good.

In my own personal experience, I have had but two cases. The first was a young man operated on previously at the Mayo Clinic and a cecostomy performed. Progressively he grew worse and after a year landed in New York and there a colostomy was done on the left side, irrigating the bowel. It was hoped that the patient could be cured by irrigation. He drifted South, became penniless, and finally came to see us. This was about eighteen years ago. I felt that the only cure for this man was removal of the colon, although I probably would not have done that if he had not had two fistulous operations in the abdominal wall. First an ileosigmoidostomy was done. The sutures held and a colectomy was performed later. This man was operated on eighteen years ago. I saw him two years ago and today he is a perfect specimen of health. He has gained forty or fifty pounds.

I had another case where I had hoped to do the same thing and on making a large incision I thought the sigmoid would hold. The patient was in poorer physical condition, running a septic temperature. Possibly he might have done better with an ileostomy. At any rate, the patient did well for a few weeks and then died of exhaustion and sepsis. The anastomosis had given way and a local peritonitis was present.

I believe the surgery of chronic ulcerative colitis is based on the following: First, medical treatment should be tried and exhausted, if you will, but do not exhaust the patient. Do not wait too long and employ surgery only as a last resort. If you feel, after you have tried thoroughly and well, the patient can not be cured, I can not see the reason why surgery should not be offered. Appendicostomy and colectomy are of no value. Ileostomy has a definite place, especially if combined with other valuable measures of medical treatment. However, it should not be depended upon alone but should be used only as an adjunct in the treatment. Permanent ileostomy with partial or total colectomy has a definite but small place. Ileostomy, ileosigmoidostomy and partial or complete colectomy should be considered in the serious cases, and each one should be carefully evaluated as to indications for its use.

Ulcerative colitis is definitely, as far as we know up to the present time, a medical problem. I do believe, as in many other medical problems, that surgery has a place, but when you employ surgery do not consider it as a last resort but employ it somewhat earlier than it is now employed.

Dr. G. F. C. Fasting (New Orleans): The bacteriologic problem of ulcerative colitis is one phase of several gastrointestinal diseases most inadequately treated, if at all, in textbooks of bacteriology and immunology. Some slight satisfaction is derived in many pathologic cases from recovering evidence of the histolytic ameba, tubercle bacilli and members of the bacillary dysentery group; but in only the first mentioned can specific therapy be offered that will insure success.

Evidence is accumulating that the bacillary dysentery group may be one etiology in suspected ulcerative colitis, in the absence of positive visualization through the proctoscope and failures by stool cultures. By development of more sensitive serodiagnosis, and by employing a unique form of immunotherapy, clinical cases have been identified as infected by the Shigella group and also cured. Prior to this development the etiology would have remained non-specific.

To the increasing data on multiplicity of etiology —I hope in the near future to report two cases of paratyphoid etiology—both patients presented extensive ulceration with melena, and both were clinically cured in fourteen days, using only autogenous vaccine, but following principles as mentioned for bacillary dysentery etiology.

In the larger category of non-specific ulcerative colitis are included those reported by Bargen as due to a diplostreptococcus. Bargen's critics are many, and they claim failure in duplicating his findings.

Having personally contributed to the successful serotherapy in more than two hundred cases, identified in Bargen's laboratory as harboring the specific diplococcus, I shall venture some remarks. Bargen's critics, who have isolated diplococci in ulcerative colitis of similar fermentative character, do not give evidence of serologic identity or difference from his strains. Yet Bargen in his laboratory employed agglutination to a higher titer than used for identification of any other microorganism.

Just as for the Salmonella or paratyphoid group, agglutination supersedes fermentative characteristics in identification, so in the streptococcal field we are yielding more to serologic relationships. I believe Bargen made a mistake, for to my knowledge he never published data on serologic specificity.

Bargen's critics do not include in their studies proper evaluation of the successful serotherapy, which has been in operation at the Mayo Clinic since 1928 nor do they give consideration to a most impressive work of T. Cook, who in numerous dogs reproduced the same ulcerative pathology as in man. The results were attained by implanting Bargen's diplococcus into devitalized teeth, the chronic feature was established and animals could be studied with a proctoscope.

A difficulty many investigators face in duplicating Bargen's work is the limited amount of cases that appear to have this etiology. The Mayo Clinic is fortunate in having drawn averages of approximately two hundred of this kind a year. Prorated over the entire United States, we perceive individual difficulty in securing sufficient numbers.

I believe it is necessary to evaluate each case bacteriologically on its own merits, whether we intend to establish additional etiologies or effect cures where so-called secondary invaders may theoretically be dominant. I doubt if we shall be able to determine some of the etiologies by direct experimental route but I believe we can by indirect methods. Furthermore, even if we attain the satisfaction of establishing an etiology, we lack fundamental immunologic guidance to conquer the infection. We shall for some time continue the method of trial and error.

Our information regarding so-called secondary invaders and their acquisition of virulent property is poor. B. coli and Friedländer bacilli, that reveal at time of isolation violent hemolytic properties, come under such consideration.

The presence of fuso-spirochetes is very rarely referred to in the English literature; it is mentioned more frequently in the French literature. Such a case, complicating a Shigella infection, was encountered by me. But for its recognition, clinical cure would have been a failure.

I believe it wiser to assume many bacterial species as potentially capable of giving rise to this disease. We are in need of greater guidance by immuno and chemotherapy to meet any newly disdiscovered-etiology. My remarks are not intended to overlook the role played by foci of infection in the body or the effects of primary malnutrition.

In 1930 physicians became aware of the serum produced by Bargen and the Mayo Clinic had to discontinue its distribution. Many physicians used the serum without going through the necessary laboratory procedure. There is now on the market a preparation which supposedly is Bargen's serum; but I can give no assurance that it works as well as that reported by us.

During the past years many cases of ulcerative colitis that have come to the Mayo Clinic have been identified in their own clinical laboratory. In earlier years this was done by Bargen and assistants. The serum is refined and prepared as needed and given to the patients without loss of potency. I know of acute cases and chronic cases which have been successfully treated with the specific antibody euglobulin—when vaccine and whole serum would fail.

Chronic cases that in times past had responded poorly to specific vaccine (active immunization), responded well after preliminary passive immunization with antibody euglobulin and the administration of specific vaccine.

Dr. Donovan C. Browne (New Orleans): Certainly a disease which carries with it such a mortality as Dr. Levin has stated, should be brought to our attention more often. It is true that we do not encounter this particular disease entity as frequently in this section as is reported elsewhere. I am sure that a certain number of cases have been overlooked in the past. Certainly it is encouraging that they are coming under the medical direction at an earlier stage than formerly.

A consideration of the etiologic factors as reported in the literature leaves one, more or less, in a confused state and such reports as Mackie's on the allergic factors are most convincing. I can not, however, bring myself in accord with those who hold that it is fundamentally a vitamin deficiency simply because a high caloric and high vitamin diet assists in the recovery of these patients. If this were so ileostomy, I do not feel, would produce the results that I have seen in certain cases. Be what the etiology may, there is a definite pathologic picture in every case. Whether this is the result of secondary infection or not it must be one of the prime factors in considering any plan of therapy, and until this particular pathologic picture is well understood I am sure that a great number of cases will be labeled chronic ulcerative colitis which do not correctly fall in this group. This necessarily follows in any disease in which secondary invaders play a role.

I am, more or less, in accord with the surgical attitude of Dr. Nix. However, it must be remembered that this disease in at least 60 to 70 per cent of the cases starts in the rectum and ascends from this point. Necessarily ileosigmoidostomy would not be at all applicable to this great group. It is true, I believe, that surgery has been delayed too long in many instances and the patient goes to the surgeon having developed many complications and is a poor risk. Some of the best results that I have seen have been those instances in which an ileostomy was performed in the early stages. I do not mean to imply, however, that this radical measure should be taken without a due consideration for, as we all know, this is a disease which has a tendency to remission and may well be managed medically in a great majority of instances.

Dr. A. L. Levin (In conclusion): I want to call your attention to a very serious complication in ulcerative colitis, that is, transformation to a malignant state, especially if polyposis is present. Some polypi probably are malignant. I would like to relate a case which I saw a year ago.

The patient, a young man, had had ulcerative colitis for a period of a year. He was studied in New York and Bargen diplococci were found. Vaccine treatment gave slight relief. Shortly afterwards he came to New Orleans and the troublesome colitis returned. A proctoscopic examination revealed several ulcers and at the edge of the ulcers several polypi. He was admitted to Hotel Dieu. Biopsy specimens were obtained and to our surprise the report came back "adenocarcinoma." This is the earliest case of malignancy of the colon as a result of ulcerative colitis I have ever seen.

The man returned to New York and consulted B. B. Crohn who examined him, sent a specimen to the laboratory and received the same report. The patient was operated on and after four months in the hospital he fully recovered. On his way to Florida for recuperation he came through New Orleans and was very grateful for early recognition of his trouble.

THE COMMON COLD AND INFLUENZA AS VIRUS DISEASES*

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NEW ORLEANS

I shall limit my remarks to a consideration of the viruses as causes of the common cold and influenza, which are unquestionably the most important respiratory diseases in which viruses play a part. During the past ten years, great progress has been made in the understanding of these diseases and hope has been revived that their control is imminent. Several experimenters have shown that bacteria-free filtrates of nasal washings taken from patients suffering with the typical acute common cold, when inoculated intranasally in quarantined subjects, would produce a clinical picture indistinguishable from that of the common cold. Dochez's group[1] in New York has shown this under the most exacting conditions. Furthermore, these filtrates when inoculated into culture media of minced chicken embryo have carried through many subcultures without loss of pathogenicity. Dochez's group has shown that the virus is easily killed by heat and also by oxidation at low temperatures. They have tried to immunize volunteers by subcutaneous injection of these cultures of the virus with disappointing results. They are convinced that the common, mild cold is principally, if not entirely, a virus disease, and that, while the more severe clinical pictures are initiated by the virus, pathogenic bacteria play an important part. They have evidence to show that the virus increases the pathogenicity of some of the cocci and also enhances their invasiveness, so much so that they have coined the expression that the common cold frequently is the result of a "cooperative undertaking" between virus and bacteria. Studies[2] in isolated communities indicate that pathogenic bacteria may exist in the nasal passages for considerable periods without disease until the virus is introduced.

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Greater progress has been made in the study of influenza. The modern period in the study of influenza should date from 1928, when Shope[3] undertook to study a disease of swine common in the Midwest, known there as "hog flu," to which he gave the more polite name of "swine influenza." This disease appeared as an entirely new clinical entity in swine in the late summer of 1918 during the last great pandemic of human influenza. Farmers and veterinarians most familiar with the disease considered it due to the same cause as human influenza. The disease was characterized by occurrence in epidemics with high morbidity, considerable mortality, sudden onset with fever, prostration, discomfort and rapid abdominal breathing. The pathology was strikingly like that of human influenzal pneumonia. Shope found the Pfeiffer bacillus regularly present in the diseased tissues. When this organism was introduced into the nose of a non-immune pig in the first experiment the clinical picture of severe influenza was reproduced, but he was never able successfully to repeat that experiment, so he gave up the idea that the influenza bacillus was the cause of the disease. He then used filtrates of diseased tissues and got exceedingly mild febrile illness in his animals, too mild to be called influenza. However, when the two agents were inoculated together, typical swine influenza resulted regularly, which showed the same contagiousness as the original disease. There seems little doubt that swine influenza is a clinical picture which requires the action of two agents simultaneously, a virus along with the influenza bacillus.

The study of human influenza was given great impetus by the English workers, Smith, Andrewes and Laidlaw,[4] who discovered that ferrets develop a pneumonic disease when inoculated intranasally with filtrates taken from humans suffering with epidemic influenza. Nasopharyngeal washings from living patients, suspensions of human tissue taken at autopsy from fatal cases of influenza, when made bacteria-free, transmitted the infection. For the first time, an experimental animal has been discovered which is susceptible to human influenza. Francis and Shope in this country, as well as one or two other groups, have taken up the use of ferrets in the study of influenza. The human virus has been isolated from almost every corner of the world, and so far appears to be of one strain.* Human volunteers have never been given the disease by the use of the experimental virus, so Koch's postulates are as yet hardly fulfilled. However, several observers have isolated the virus from the nasopharyngeal washings of influenza patients and shown that antibodies were absent in the patient's blood at the time, and that specific antibodies appear with recovery. Well people and those with the common cold yield no such virus, so there seems little doubt that the virus is intimately connected with the etiology of influenza.

Extremely interesting observations have been made on the immune processes with this virus and the virus of swine influenza. After several passages through the ferret, the viruses become pathogenic for mice, where they produce fatal pneumonia, so the mouse is a useful animal for testing serum for antibodies. It has been found in England and in America that most adults have protective antibodies in their blood serum for both the swine and human viruses, but that children below the age of ten rarely have antibodies against the human virus. Adults show antibodies even more commonly for the swine virus than they do for the human. Yet the swine virus has never been isolated from a human source. These facts suggest that the swine virus was formerly the common infection in humans, and that about ten years ago it ceased to cause human disease. Now, it was about twenty years ago that the disease was first noted in swine.[3] The influenza virus is also successfully cultivated in a tissue culture medium. Francis and Magill[5] used such a virus intramuscularly in human volunteers and showed that antibodies to the virus appear in the blood of these subjects. They have not reported protection of these subjects against the clinical disease. Stokes and his co-workers have attempted to protect some of the inmates of a colony in Pennsylvania by beginning the use of live vaccines just at the outbreak of an epidemic of influenza. He used the swine virus in one group and the human virus in another, and left a larger group without vaccination. The development of febrile respiratory infections in the uninoculated and the group which had received the swine virus was about the same, while the group which had received the human virus had less than one-third the morbidity. This demonstration of protection is not as satisfactory as one would wish. The English workers have shown that ferrets recovering from the disease are completely immune for three months, and have partial immunity for another three months. During the second three months they may develop the disease by intranasal inoculation even though they, at that time, have antibodies in their blood stream. Shope showed in swine that inoculation of the virus alone caused immunity to the disease. Inoculation with the *Hemophilus influenzae* alone gave slight immunity. Swine inoculated intranasally with the virus might develop immunity without the appearance of antibodies in the blood, which suggested a barrier in the tissues of the nose without any general humoral immunity being involved. The English workers have developed a potent horse antiserum which confers passive immunity on mice and also aids in the cure of mice when they are sick already with the disease. They point out that their observations deal with influenzal pneumonia, since the disease in mice is essentially a pneumonia, and they believe that the lungs are protected more readily from disease than is the nasal mucosa. It is not known what role *Hemophilus influenzae* plays in the human disease, but since this organism is almost always present in the diseased tissues along with the virus, just as it is in the disease of swine, it seems likely that it may play an important part in the human as in the swine disease.

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*Since this paper was prepared, Magill and Francis have presented before the American Society for Clinical Investigation cross immunization studies on 16 strains of influenza virus which show wide differences between strains.

These new facts about influenza should lead to more accurate diagnosis of the disease. There seems little doubt that many cases now considered as sporadic influenza are due to other causes. The English workers failed to isolate the virus from all the cases of sporadic influenza studied. One of the causes of the conditions now considered as sporadic influenza is, no doubt, sinusitis with few local symptoms.

SUMMARY

The evidence that viruses play a leading role in the causation of both the common cold and influenza has been briefly reviewed.

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THE PATHOLOGY OF THE VIRUS DISEASES*

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NEW ORLEANS

In discussing, in a limited period of time, the pathology of such a large number of diseases as those caused by filtrable viruses it is only possible to mention the main pathologic features of the individual disease entities and treat the group in more or less outline form.

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*Read before the Orleans Parish Medical Society, January 24, 1938.

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Virus diseases affecting the nervous system will be considered first. These are rabies, epidemic encephalitis and poliomyelitis. Secondly, those involving mainly the skin, subcutaneous tissues, and lymph glands, which include smallpox, molloscum contagiosum, lymphogranuloma inguinale, and herpes. The last group to be discussed covers those diseases which are more or less of a systemic nature and consists of the following: yellow fever, dengue fever, psitticosis, and mumps.

PATHOLOGY OF RABIES

Grossly there is noted congestion and edema of the gray matter of the brain and cord. Microscopically there are noted nerve cell degenerations, accumulations and collars of lymphocytes and plasma cells around the small blood vessels. The presence of Negri bodies is a pathognomonic feature of this disease. These are probably degeneration products of cellular origin and are noted as cell inclusions in the ganglion cells especially of the hippocampus.

EPIDEMIC ENCEPHALITIS

The gross lesions are not characteristic, except for congestion of meninges and brain, and tiny hemorrhages in the base of the fourth ventricle. Microscopically the most striking lesions are the perivascular collars of lymphocytes and plasma cells and small hemorrhages about these vessels in places. The perivascular collars are not pathognomonic as they are also seen in syphilis, poliomyelitis and rabies.

POLIOMYELITIS

In this disease lesions are noted not only for the cord proper but at times also for the medulla, pons and midbrain. Cord lesions are mainly for the lumbar and cervical enlargements. Petechial hemorrhages are seen for the gray matter in early cases. The vessels are surrounded by collars of lymphocytes, and early in the disease neutrophiles are also present. The main lesion is degenerative in character and consists of a more or less complete destruction of the motor cells of the anterior horn. These cells are replaced by astrocytes and there results then a marked gliosis or nervous tissue cicatrization.

SMALLPOX

The papular and vesicular lesions are due to the action of the virus itself; the pustular lesion is mainly due to secondary pyogenic invaders, especially streptococci. The specific virus is epitheliotropic, that is it proliferates in the epithelial cells of the epidermis causing them to swell and liquefy. When lesions are seen for the mucous membranes of the mouth and nose, the histology is the same as for the skin except possibly for more secondary infection. The internal organs usually show toxic changes. The Guarnieri or inclusion bodies, pathognomonic of smallpox, are noted in the swollen epithelial cells. They may represent degeneration products or some odd pleomorphic form of the virus.

MOLLOSCUM CONTAGIOSUM

This is an odd, cutaneous, virus disease especially in children, characterized by small, white, cheesy, raised nodules. Virus stimulation causes hyperplasia of epithelial cells followed by softening and degeneration after which this necrotic mass may be discharged through a crater-like opening on the surface. Important from the standpoint of pathologic diagnosis are the molloscum bodies which represent cell inclusions, have a horny capsule and are filled with enormous numbers of minute granules from which the virus can be isolated.

LYMPHOGRANULOMA INGUINALE

The primary lesion of this disease is a papule or erosion usually on the genitals which heals unnoticed. Weeks later the regional lymph nodes become indurated and painful. Suppuration and sinus formation often occur. Fibrosis, granulation tissue formation and local edema due to lymphatic obstruction are common. Multiple, small, stellate abscesses surrounded by epithelioid, lymphoid and plasma cells are a fairly characteristic picture. Superimposed secondary infection, the frequent combination of lymphogranuloma inguinale with granuloma inguinale and chancroidal infection, makes this picture so confusing that it is often impossible to make a histopathologic diagnosis. It is then necessary to resort to specific skin tests. This and other features of lymphogranuloma inguinale have been ably discussed in publications by Drs. D'Aunoy and von Haam.

HERPES

The pathology of both types, simplex and zoster, is similar. A deep seated vesicle forms as the result of liquefactive changes in the prickle cells of the skin. In herpes zoster there are noted in addition to the skin lesions degenerative and inflammatory changes in the ganglia and posterior roots of the spinal nerves. Another characteristic feature is the presence of zoster cell inclusion bodies of Lipschutz. These are oval, eosinophilic staining bodies within the disintegrating prickle cells.

DENGUE FEVER

This disease is characterized by a punctate rash, slight generalized lymphadenopathy and slight splenomegaly; otherwise, from a pathologic standpoint, there is nothing worthy of mention.

MUMPS

The parotid gland is acutely swollen, inflamed and there is much serum exudation. There is no suppuration nor necrosis; the gland heals by resolution and is left uninjured. A similar histopathology may in some cases be noted for the testes, ovaries, mammary glands, and even the pancreas.

PSITTICOSIS

This is a disease of parrots, transmissible to man. The important lesions in fatal cases are noted for the lungs in the form of bronchopneumonia. Unlike other pneumonias, wherein the cellular response is neutrophilic, in the psitticosis pneumonia the main cells are of the mononuclear variety. There is very little fibrin formation. A marked thickening of the alveolar walls due to proliferation of the lining epithelium is noted. Inflammation of the pleura in this type of pneumonia is rare.

YELLOW FEVER

The virus of yellow fever attacks especially the capillaries and this explains the gastric hemorrhage and black vomit of this disease. There are petechiae of the epicardium, endocardium, skin and lungs. The kidneys show a marked tubular nephritis. The classical lesion in yellow fever is the "Councilman lesion" in the liver which is a non-inflammatory necrosis involving many liver cells and forming hyaline masses in the cytoplasm. The necroses destroy the bile passages permitting their contents to escape into the circulation and thereby accounting for the intense jaundice. The liver lobule necrosis is the midzonal type. In addition there is much fatty degeneration accounting in part for the yellow color of the organ. Acidophilic cell inclusion bodies have been described in the liver cells in yellow fever.

SUMMARY

The etiologic agents of this group of diseases are ultramicroscopic and filtrable. However, filtrability of a disease agent does not necessarily place it in the category of virus diseases, since some of the well-known bacilli and spirochetes are filtrable. Furthermore, the nature of the virus emulsion, its electric charge or that of the filter alter its filtrability. The presence of more or less definite cellular inclusions is an important feature with regard to virus diseases. Notable examples are the Negri bodies in rabies, Lipschutz bodies in herpes, molluscum bodies in molluscum contagiosum and Guarnieri bodies in smallpox. Besides inclusions, the microscopic changes may be those of local hyperplasia, cellular degenerations or bacteriolysis as in bacteriophagy. In some instances, the primary lesions due to the virus are insignificant, but secondary invaders may cause marked changes. Virus diseases are mainly epitheliotropic (smallpox) or neurotropic (poliomyelitis). The filtrable agents of the viruses occupy a sphere of wide distribution affecting not only man and animals, but also plants, mosaic disease of tobacco for instance, and bacteria in which the micro-organisms are destroyed by the bacteriophage.

MORPHINE:

A DANGEROUS DRUG IN CHRONIC ASTHMA*

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My experience in the care of asthmatic patients during the last eighteen years leads me to believe that morphine should seldom be used in the treatment of patients suffering from chronic asthma. My conclusions have been based on a critical review of deaths that have occurred among the chronic asthmatic sufferers whom I have had under supervision during this time.

I wish briefly to review the histories of five cases which illustrate the point in question.

CASE REPORT No. 1

This patient was a three year old child who had suffered from periodic attacks of typical asthma since she was six months old. On one occasion she developed a severe asthmatic attack which was accompanied by an acute respiratory infection without fever. The use of adrenalin hypodermatically did not give good results. However, when an asthmatic attack is precipitated by an acute respiratory infection, adrenalin usually will only partially relieve symptoms.

On account of the severity of the attack, the parents asked for a pediatric consultant who advised the giving of 1/12 grain of morphine hypodermatically, and suggested it be repeated in a couple of hours. On account of the symptoms remaining quite severe, the parents asked that I be called. Just as I was leaving to make the trip a telephone call came saying that a second 1/12 grain of morphine had been given with the results that the number of respirations was reduced and the asthmatic symptoms were very much better, but the patient died.

COMMENT

What was the cause of this child's death? Morphine. This little patient had typical asthma. On this occasion the attack was precipitated by an acute respiratory infection. Adrenalin hypodermatically did not give the best results. Nature was continually trying to force the mucus from the bronchial tubes, thereby producing asthmatic symptoms. Although adrenalin did not give complete relief, nature's mechanism should not have been interfered with by the use of morphine. Morphine quieted the number of respirations to a point that the child did not receive sufficient oxygen to sustain life.

CASE REPORT No. 2

W. T., aged 63, had suffered from asthma since a child. During the last ten years his asthma had become rather severe. He gave a history that between periodic attacks of asthma he raised a good deal of purulent secretions. On investigation he was found to be suffering from the tubular type of bronchiectasis. He had a white blood count of 15,700. Allergic studies revealed reactions to Russian thistle and the animal dander group. Desensitizing methods against Russian thistle and house dust were instituted, and iodized oil was used as a mechanical means of keeping the bronchial tubes clean.

During the year I cared for him his progress was very promising. He developed, so far as could be determined from the report given by his wife, an acute cold which involved the bronchial tree, naturally increasing his asthma. (An acute cold will usually materially increase asthmatic symptoms.) Adrenalin hypodermatically or by vapor did not give the desired results. This attack was reasonably severe, and his wife decided the best thing to do was to take him to the hospital, and wrote me concerning his hospital trip as follows: "I brought my husband to the hospital and the doctor gave him a dose of morphine that gave him eternal ease. He will be buried on Tuesday."

COMMENT

What caused this 63-year-old man's death? Morphine. I had reinvestigated this patient's problem only a short time prior to the severe attack during which death occurred. His general condition was good. This man suffered from asthma with a reasonable amount of bronchiectasis. Due to the acute infection, the mucus was adhering tenaciously to the bronchial wall and many of the tubes were entirely filled. Adrenalin did not give the desired results, but nature's effort to expel the mucus should not have been interfered with by a drug which would paralyze the cough reflex. Morphine quieted the respirations to such a point that the patient did not receive sufficient oxygen to carry on the functions of the body. Morphine was the cause of this patient's death.

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*Presented before the fifty-ninth annual meeting of the Louisiana State Medical Society at New Orleans, May 3, 1938.

CASE REPORT No. 3

Mrs. J. H. S., aged 42, came to the Clinic suffering from asthma of twenty years' duration. On investigation it was found she had suffered from chronic sinusitis for many years and had had a number of nasal operations. The true asthma and the sinusitis from which she suffered were complicated with bronchiectasis.

She returned home and was doing reasonably well. On one occasion, apparently without a cold, she developed a violent attack of asthma. (This not uncommonly happens in asthma associated with bronchiectasis.) Her family physician was called who declared that on account of the severity of her asthma, she should go into the hospital. He called the hospital and left orders for morphine, ¼ grain, to be given when she arrived. Since her symptoms were severe, he decided, however, to give her ¼ grain of morphine before she left home, but he forgot to countermand the hospital order. On arriving at the hospital, another ¼ grain of morphine was given. The patient died in about ten or fifteen minutes' time.

COMMENT

What caused this 42-year-old patient's death? Morphine. This patient evidently had her bronchial tubes badly filled with infectious material which along with the edema, due to sensitization, precipitated an attack of asthma. The quarter grains of morphine could be tolerated by the average individual without chronic asthma, but this patient's bronchial tubes were filled with mucus, and she was probably breathing forty or fifty times a minute in order to give her sufficient oxygen to sustain life. The two quarter grains of morphine reduced respiration to such a point that she did not have sufficient oxygen to allow life to continue.

CASE REPORT No. 4

Mrs. C. J., aged 74, lived in Oklahoma City and was brought to the Clinic a number of months on account of her chronic asthma. She had been doing very well. From time to time she would have acute upsets in which adrenalin would have to be used. Recently she had a severe attack one night in which adrenalin would not give the best results, and a doctor was called. He said he would use something that would give her relief. He gave her a hypodermic following which she lived only twenty or thirty minutes. The daughter reported it was morphine.

COMMENT

What caused this patient's death? Morphine. In the four cases just reported, it appears that immediate death in each case was due directly to morphine. A fifth case of morphine death among chronic asthmatics has recently occurred, which has impressed me with the dangers of the use of morphine for the relief of paroxysms of asthma.

CASE REPORT No. 5

Mrs. F. C. H., aged 54, had suffered from asthma for twenty-four years. For the first few years of her asthmatic life, symptoms were only moderately severe. During the last ten or twelve years, there have been only a few periods in which she was entirely free from symptoms. Each year she would suffer from four or five violent attacks, which would last from a week to ten days. At the time I first saw her, which was over a year ago, she was raising large quantities of purulent sputum, and adrenalin was being used daily for relief.

Physical examination revealed nothing unusual: blood pressure, 110/80, blood count normal, and general condition appeared fair. Allergic studies showed reactions to ragweed and animal dander groups. We were not able to demonstrate bronchiectatic areas by the use of iodized oil.

Treatment consisted of desensitization with house dust fortified with orris root, three ragweeds, and the use of a vaccine. Iodides by vein and by mouth were prescribed, and the use of a lightweight iodized oil as a mechanical measure for forcing up mucus was given, with the result she lost most of the asthmatic attacks and was comparatively free over a period of months.

During the last eight months, she had two or three upsets in which the paroxysms were moderately severe, but they could be controlled well with the use of adrenalin 1:1000. Recently, following a slight cold, she developed a moderately severe attack of asthma, and 1/6 grain of morphine was given by her family physician, with moderate relief. A few hours later, 1/4 grain of morphine was administered with considerable relief, but resulting in death.

COMMENT

Since this patient lived in another state and was not under my care during the last attack, it is difficult to say definitely what actually happened, but from the history given by the family, I have every reason to believe that morphine was the immediate cause of this patient's death.

DISCUSSION

Chronic asthmatics with or without bronchiectasis, have a tendency to drown in their own secretions. The asthmatic attack is nothing more than nature's means of trying to force out of the small tubes, or bronchiectatic areas, the ropy and purulent secretions. Due to the lining of the larger tubes with tenacious secretions, and to the plugging of the bronchioles, the asthmatic person has much difficulty in obtaining a sufficient amount of oxygen; therefore, respiration is frequently increased from the normal 16 to 20, up to 30 or 40 per minute.

Morphine will partially or totally destroy the cough reflex and at the same time, acting centrally on the respiratory center, will materially reduce the number of respirations. Due to the chest pathology, the number of respirations are materially increased so as to give the patient plenty of oxygen, and often when the number is reduced, the amount of oxygen allowed to pass through the heavily lined bronchial tubes is not sufficient to sustain life.

Many physicians do not carry with them adrenalin hydrochloride 1:1000 dilution, but morphine is always in their grip. Therefore, on visiting a patient suffering from an asthmatic paroxysm, morphine would naturally be given. Not uncommonly asthmatic patients who have developed a tolerance to adrenalin are seen. Under such conditions, aminophylline in 7½ grain doses in 20 c.c. normal saline given intravenously should be used, or an equal mixture of ether and olive oil should be given per rectum. Frequently, due to the lack of knowledge of the value of the two procedures mentioned, or due to the inconvenience, morphine is given.

SUMMARY

In the study of the patient with chronic asthma, inquiry is always made concerning various procedures that have been used for temporary relief. I have found that in nearly all patients, during one or more of their severe attacks, morphine has been given for relief. Realizing this fact, and having observed during the last months five of my own cases in which I feel reasonably sure that morphine was the immediate cause of death, I would naturally conclude that in this country there are many deaths each year among the chronic asthmatic population which are due directly to the use of morphine as a palliative measure.

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THE ANNUAL MEETING

Once again, but for the last time, we are calling attention to the importance of the annual meeting of the Louisiana State Medical Society. We do not wish to harp on this subject unduly but nevertheless we feel definitely that at the meeting this year there should be by all means a large and enthusiastic outpouring of the members of organized medicine in the state. There are grave matters in the not too distant horizon which may affect profoundly and fundamentally the practice of medicine. If we can show by a large attendance that the doctors of the State of Louisiana are interested in the economic problems which beset them, as well as in scientific matters, it will be a positive demonstration to those who might have the audacity to assume that medical men are not interested one way or the other in state medicine, that we are cohesive, that we are working under one banner and that we are against the control of the medical profession by politicians, social workers and the like.

Do make every effort to attend this meeting at Alexandria!

The program is printed elsewhere in the Journal. A perusal of this feast of reason that has been prepared by the chairmen of the different sections will show that the scientific presentations are in every way excellent and well worth while listening to. The men who attend these meetings regularly will go home with new ideas, new thoughts and new plans for the treatment of their patients and their diseases.

HOSPITAL SERVICES IN LOUISIANA

The Hospital Number of the Journal of the American Medical Association presents a tremendous amount of valuable information and informative data. This has to do with the whole United States. In the various groups of statistics, of course, are placed the hospitals of Louisiana. This state, as contrasted with many states, is reasonably well taken care of in so far as general hospitals are concerned. At the present time the general hospital beds are between three and four per 1,000 population. There are a few states which have more hospital beds available per unit of population than Louisiana, but, with the exception of Florida, there is no southern state as amply provided as is Louisiana for the care of the sick. As a matter of fact Georgia, Mississippi, Arkansas and Kentucky have a ratio of only one or two beds per 1,000 population. It is interesting to note that Louisiana, which stands about midway between the two extremes, has a greater per cent of occupancy of the available beds than any other state in the Union, with the exception of New York which is tied with our state.

Louisiana is well supplied with hospitals. There are 52 with a bed capacity, all told, of 6,827 and into which come somewhat over 179,000 patients a year. There is an ample number of beds apparently for the care of the patients who present the general run of the mine type of disease. On the other hand, the provisions for the care of the tuberculous is woefully inadequate. There are four hospitals devoted to tuberculosis with 337 beds to which 416 patients are admitted every year. The ideal is two beds for each death in the state; satisfactory is one per death. Louisiana has only 0.6 of a bed per death. This number should be doubled. There is listed no maternity hospital as such, but there is one industrial hospital and one hospital devoted to eye, ear, nose and throat disorders. For the nervous and mental cases Louisiana affords six hospitals in which there are 7,318 beds. The beds are filled for the most part steadily through the year but throughout the year there are only 2,698 patients admitted. The turn over here is small.

The two big state hospitals, one in Shreveport and the other in New Orleans, account for a goodly part of the beds available for general medical services. It is interesting to note that the Charity Hospital of New Orleans is one of the largest hospitals in the United States. The Cook County Hospital of Chicago has 3,300 beds and admits something over 75,000 people. Bellevue Hospital in New York has 2,431 beds with slightly over 65,000 admissions. Philadelphia General Hospital has 2,676 beds with only 24,189 patients admitted each year. The Los Angeles County Hospital has 3,154 beds with approximately 50,000 patients entering the institution yearly. These are the four largest hospitals in the country, excluding the Charity Hospital of New Orleans. This institution as it stands at present as officially reported by the American Medical Association, has 1,735 beds but, exclusive of the two hospitals located in the two largest cities in the United States, Charity Hospital admits more patients than any other institution in the country, this number being 55,859. The figures were larger than this prior to moving into the temporary structures that are now being used pending the building of the new institution.

There are more children born in the Charity Hospital than any other institution in the country. Eleven plus babies come into the world every day in this great institution.

The data given above concerning the hospital situation in Louisiana need very little comment. As contrasted with most of the states in the Union we are well stocked with hospital beds. As contrasted with the Southern states the State of Louisiana is very much better equipped to take care of the sick in hospitals than practically any other state south of the Mason and Dixon Line. The new Charity Hospital, when completed, undoubtedly will take care of more people than any hospital in the United States with the possible exception of Cook County. There is need, however, for considerable increase in the number of beds available for the care of the tuberculous patient and for the insane.

ALCOHOLISM AND BENZEDRINE

Amphetamine (benzedrine) sulfate was first utilized in 1935 in the treatment of narcolepsy. During the past four years the drug has been found to be efficacious in other conditions and particularly popular has it become as a general stimulant in people who are depressed and suffering from chronic fatigue states. Once in a while unfortunately there are some individuals whom it over-stimulates, whom it makes nervous and in whom it causes insomnia. One of the side effects that has been discovered in this drug is that it is magnificently effective in relieving the symptoms that come the morning after the night in which alcohol has been indulged in to excess. Quite a few of those who imbibe at times more than they should have noted that, when taken the next morning, it stimulates them and perks them up to a very high degree. It has also been noted that, if taken at the same time as alcohol, intoxication will not develop as with the same amount of alcohol when taken alone.

Because benzedrine does away with post-alcoholic depression and because it mitigates the intoxicating effect of the drug itself, Bloomberg* has used it in the treatment of chronic alcoholism. He notes that he first warns his patients that alcoholism is a disease and that merely knowing that one ought not to drink is not enough to cure the disease. He stresses the fact that unless the patient desires to stop drinking no one could help him. If he does want to stop drinking and will help himself, the drug will prove to be of great value. He gave to those patients seen in office practice and at the clinic of the Boston City Hospital, some 21 in number, 10 mg. of benzedrine sulfate in tablet form, one to be taken immediately on arising and one at noon. Following these patients at weekly intervals, in some instances it was necessary to increase the amount of the drug and in others to diminish it.

The results obtained in the 21 cases were very satisfactory on the whole. In 14 instances the results were considered entirely successful; patients stopped their drinking habits so they were able to resume their places in the family and business world. In only four cases was there total failure. In 15 of the 21 cases, according to the author, the abstinence period was six times as long as the usual free interval before treatment. Most patients stated they had no desire to drink but they felt alert, energetic and able to face their difficulties so they no longer needed the support of alcohol. Bloomberg concludes that this method of treatment is of value in the instance of chronic alcoholism and that it permits a sufficient interval of sobriety for the institution of more fundamental psychotherapeutic methods.

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*Bloomberg, W.: Treatment of chronic alcoholism with amphetamine (benzedrine) sulfate, New England J. Med., 220:130, 1939.

HOSPITAL STAFF TRANSACTIONS AND CLINICAL MEETINGS

HIGHLAND CLINIC

Shreveport

The Staff of the Highland Sanitarium held its regular monthly meeting at 8 p. m., February 16, in the Clinic Building, following dinner at 7 p.m. in the Sanitarium dining room.

The scientific program consisted of a motion picture presentation entitled "Syphilis—A Motion Picture Clinic." This was a sound motion picture film covering all the most important phases of syphilis, its diagnosis, treatment, and control; the leading authorities on syphilis in the United States contributed to its making. All those present apparently were greatly interested in the film.

W. H. Boggs, M. D., Sec.

MERCY HOSPITAL—SONIAT MEMORIAL

New Orleans

The regular monthly meeting of the Mercy Hospital Staff was called to order by the president, Dr. J. J. Irwin, on Wednesday, February 1, at 8:00 p. m.

Dr. C. F. Bellone presented a case report of chorio-epithelioma of the uterus, following hydatidiform mole, with presentation of the microscopic and gross specimens of the pathologic findings. The discussion was opened by Dr. J. F. Dicks who emphasized the fact that hydatidiform moles are frequently followed by chorio-epithelioma and, too, that there is frequent metastasis to the chest. He urged that hysterectomy be done on all patients with hydatidiform mole. Further discussion was offered by Drs. Dean Echols and E. L. Leckert, the discussion being closed by Dr. Bellone.

Mortality investigation of two cases was then taken up. The first was that of a white female child, aged eleven, who died of acute lymphatic leukemia. This was discussed by Drs. Hull, Monte, and DeBakey. The second case was that of a white male, aged sixty-eight, who died of arteriosclerotic heart disease. Discussion followed by Drs. Hull, Monte, Gately, and London.

After the scientific program, there was a short recess, followed by an executive session.

Carroll F. Gelbke, M. D., Sec.

NORTH LOUISIANA SANITARIUM

Shreveport

The regular meeting of the North Louisiana Staff was called to order at 8 p. m. on February 28 by the president, Dr. George Wolfe, Dr. Wolfe announced that appointments to the various committees for the coming year would be made at the next meeting.

The case for the clinico-pathologic conference was that of an 18-year-old boy who, 18 hours before admission to the hospital, was struck by an automobile and rendered unconscious, receiving a fracture of the right leg with contusions to the chest. After about two hours the boy partially regained consciousness and a cast was applied to his leg before bringing him to the hospital. Because of malalignment of the fractured fragments, he was referred to the hospital. On admission, he appeared toxic, semi-conscious, and his pulse, respiration, and temperature were above normal. There was impaired resonance, distant breath sounds, and crepitant and coarse rales over almost the entire lower right lobe. An important laboratory finding was that many fat globules were found in his sputum. His condition steadily grew worse and he died three and one-half days after admission. At autopsy, the diagnosis of fatty embolism of the lung was confirmed. This case was discussed by the entire staff after the history and clinical course were presented.

N. Judson Bender, M. D., Sec.

HUTCHINSON MEMORIAL CLINIC

New Orleans

Scientific Session conducted by the Department of Preventive Medicine, Dr. W. H. Perkins presiding:

Hypogonadism (Dr. Leonard Scott, Department of Preventive Medicine): I selected this case from a number of others (females) because it has been of interest and it is the only one in which I have noted a marked effect from the use of a synthetic hormone. It presents some peculiar works of nature manifested by his growth and development, and I shall present a brief summary of the long history of this case.

The patient is now 24 years of age, and was admitted to the Clinic on March 4, 1938. He has always been small but no special note was taken of his defect until he failed to develop properly at the fourteenth year. Both parents were born in Italy. One grandparent is living at 80; two others died at the age of 85; the fourth died of yellow fever.

There is no history of hereditary defects, giantism, dwarfism, tuberculosis, cancer, diabetes or thyroid disease in the antecedents. One child was born dead before the present one arrived. The patient had an attack of pneumonia when he was one year old. Besides this he passed through chickenpox, mumps, measles, and had an attack of impetigo. In 1934 an appendectomy was performed and he had a testicular transplant made in the same year. This was made in the left lower abdominal quadrant. This patient has been remarkably free from any acute infections with the exception of those mentioned and, aside from the developmental anomalies, he has been in fairly good physical shape most of his life. He has, of course, suffered from depression as the result of his defect, and was at the time of entering the clinic rather hopeless that anything could be done for him. His intelligence is very good, and he has had three years of high school training in which he was quite successful. He is musically inclined and plays on at least two instruments with moderate success. When urged strongly to continue high school he himself was willing, but plans were frustrated by his mother who did not regard further education as a necessity. His father is illiterate but his mother can read and write. His mother is much attached to him and he is to her. He indicated his desire to defer to her in all her wishes. Personally agreeable, he shows outwardly at least no sign of introversion, now that treatment has increased his confidence in himself and made him approximate more nearly to the normal than hitherto.

On physical examination, aside from his youthful appearance, the bodily configuration is the most striking feature of his physical appearance. Although 24 years old he has no vestige of a beard though the hair of the head is very luxuriant. The bodily configuration is feminine in type in so far as the pelvic girdle and the hips are concerned. When he first came to the clinic the genitalia were extremely small, the testicles about the size of small lima beans, soft and retracted. This condition has since been altered. His blood pressure was 100/80. There were no other organic defects detected and his health corroborates the physical findings. The anthropomorphic measurements were: Height 62½″; weight, not given; head circumference 22; neck circumference 11¾; chest circumference 32¾; abdomen circumference 32¼; span 62½; pubic (half height) 34¾.

The laboratory work showed as follows: The urine was negative; the blood count showed slight anemia, 80 per cent; red blood cells 4,000,000; 5,750; blood sugar 87, cholesterol 147, calcium 9.7, phosphorus 4 mg. per cent. Wassermann and Kahn tests were negative. There were no intestinal parasites. A series of five B. M. R.'s was run. These varied from -12 to -32. An x-ray report of February 16, 1938, showed an epiphyseal age of approximately eighteen years with epiphyses at lower ends of tibia, fibula, radius, ulna, metacarpals and phalanges. The sella was normal. Another x-ray report of February 8, 1939, showed that the developmental age is "believed to be less than twenty years and possibly eighteen or nineteen."

The patient stated that he had received six months' treatment with antuitrin S without visible improvement in his status; so besides thyroid, which was gradually increased to four grains, treatment with testosterone propinate* was begun on May 13, 1938. The thyroid extract did not appear to be effective and the patient of his own accord ceased to take the drug. The effects of the testosterone propinate (25 mg.) were very soon in evidence so that even after the first dose he reported erections on May 18. Suggestion may have played a part. Testosterone has been continued since then with tri-weekly doses of 25 mg. except for a short period between November 8 and November 31, 1938, when it was replaced by antuitrin (whole gland) extract. The latter proved to be ineffective and the patient begged to be treated further with the testosterone salt.

The maximum effect was obtained about September, 1938. Aside from an increase in stature of one inch, that is from 62½ to 63½ in ten months, which can hardly be attributed to the testosterone, the pelvic configuration has snown but little change. However, his muscles have increased in size and consistency and his manner is far more cheerful and aggressive. Subjectively as well as objectively, in so far as the genitalia are concerned, he has been improved. Altogether a total of sixty-seven injections of 25 mg. doses (1.675 gm.) and five 10 mg. doses (0.050 gm.) of testosterone propinate were administered during the period May 13, 1938, to February 23, 1939, that is about nine months. Besides this treatment, sixteen injections, about 1 c.c. each, of antuitrin were given without any effect whatever. It did not replace testosterone. The amount of thyroid is not recorded since it was discontinued without any notice being given. This has been resumed during the past two months, two grains daily being taken.

The results can be considered only fair. The fact that a stationary condition has apparently been reached beyond which no further physical development has been achieved for at least four or five months is not encouraging and does not augur favorably for future improvement, though this is not impossible in so far as growth of the bones is concerned.

The deficiency in testicular development remains approximately stationary and the pelvic configuration has changed but little in spite of the increase in stature and ossification of the epiphyses.

The patient claims that the sense of well-being, increased energy, improved morale, and willingness to face the exigencies of life with confidence are in themselves worth all the trouble and annoyance of the treatment. These subjective manifestations are in accord with his behavior and general appearance.

Student Health Service through the Clinic (Dr. W. H. Perkins, Department of Preventive Medicine): Although the Student Health Service so far as the medical student is concerned is initiated in the Department of Preventive Medicine, the subsequent care of students comes largely under other departments of the clinic. For that reason, we are bringing to you some of the reflections of the care and service they receive through the Department of Preventive Medicine.

There are many reasons for taking the students in this way: First, they require adequate treatment; second, it is a service that goes on indefinitely; third, it is of value to the Freshman students that they pass through all of the requirements of admission to a clinic. They learn what it means to have a registration number, to have a card, to have appointments, and to go through the same procedures as those who will be their patients later. It also gives us a splendid opportunity to present to the Freshmen some of the ethical aspects expected of medical students toward the work which they are undertaking and the responsibility that will be placed upon them. The examinations are made by the Senior medical students, and we insist that this be maintained upon a high basis. The Freshman has little idea how much the Senior student knows. The Seniors in turn are dealing with men of about their own age. They are dealing with variable temperaments in these young men and seeing a type of patient that they would hardly have in practice. We call this Health Service a Periodic Health Examination. Because these students frequently cannot come back for return visits, we have to compromise a little in our study of the individual, particularly in respect to an analysis of his environmental situation. We are primarily interested in maintaining health, pointing out that this is a difficult task, but that there is no greater service than to try to keep a person well. In so far as the discovery of disease is concerned, it is never minimized in making the actual physical examination, but it is just here that we must depart from our ideal. Because the students have a somewhat similar environment as the usual patients, they have more or less similar sociologic factors. It is possible in most instances to determine something of the differences in environment and habits before they come to school. It is still unfortunate that this past picture of their lives cannot be observed further and more accurately. The first thing we are trying to do is to help the Seniors understand the meaning of medical service from its very beginnings, and aid them in the prediction of the medical probabilities in at least the next few years of their lives. We are trying, therefore, to pick out in the individual cases all of those factors we know to be capable of producing disease, and elicit them in the past and present history of the students. When that is done, and then only, are we prepared to look at the individual from the disease point of view.

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*The testosterone propinate (oreton) was furnished free of charge through the courtesy of Dr. Max Gilbert of the Schering Corporation.

I present here a chart which tells much of the obligations imposed on us in determining the medical status of every young man. From 18 to 29 years of age, there are several outstanding disease hazards. Of these, tuberculosis ranks the highest. As a cause of death, tuberculosis claims one-quarter of the young people between these ages; one-fifth of them die from external causes—accidents of childhood, street-car and automobile accidents. Under the complex "Diseases of the Heart" we recognize many etiologic factors: (1) The rheumatic heart, (2) a few syphilitics, (3) a relatively small number of thyrotoxic hearts, and (4) practically none of the so-called degenerative types. Pneumonia ranks equally with diseases of the heart. Three per cent of this age group die from appendicitis. Up to this point in the list we have listed approximately 60 per cent of the causes of death among young people of this age, that is, a relatively few conditions account for considerably more than half the number of deaths.

Our first challenge is to see that every student gives us as far as possible some information about the history of the conditions on that list as they may pertain to him as well as every other condition that we can elicit. We go about this from the etiologic point of view, family history, and so on, so as to determine if the student has been subjected to any of the acknowledged etiologic factors of these conditions. Possibly, 80 per cent of the importance of the examination is in the history; it is not a voluminous history but one of methodical thinking always working forward from effective causes. For this summary, I have taken 400 of the Freshman medical students who have been admitted to the Department of Preventive Medicine.

In regard to tuberculosis, these records indicate that in the instance of 7.8 per cent of these students, there has been an actual case of tuberculosis or a death from tuberculosis in the family, i. e., a person with whom they have lived or with whom they were in contact for a number of years. Almost 8 per cent of them had this more or less prolonged exposure. I believe that it is important to know that a student has been subjected to such a hazard. About 9 per cent had similar contact with nonfamilial connections, such as playmates. About 2 per cent of them had themselves been told that at one time or another they had tuberculosis; one was of the glands, one of the spine and the remainder pulmonary. Only one of these has fallen into the category of having tuberculosis at the present time. In one-half of one per cent, there was a history in recent years of unexplained hemoptysis either with a single spitting of blood or hemoptysis repeated at least once or twice. No one was able to arrive at a cause of this bleeding.

The figures I give are not of absolute significance. Among the students who have been x-rayed, 3 per cent show x-ray evidence of pleuritis; 6 per cent have localized parenchymal lesions with fibrosis and/or calcification, and the same number were diagnosed as pneumonitis. Finally, in regard to tuberculosis, about 1 per cent have been proved to have active tuberculosis. That does not mean they are active cases in school at the present time; some have dropped out. In school, at present, are four who have been proved to have active tuberculosis. We, therefore, feel that this is a distinct challenge.

In regard to heart conditions, rheumatic fever is the cause of most heart lesions at this age and four, or 1 per cent, of these men reported that they had heart trouble before they came to the medical clinic. Only one gave a history that might be suggestive of rheumatic fever. One was reported to have a definite frank history of the florid type of rheumatic fever. Only one was able to recall that his parents or any member of the family had had rheumatic fever or knew they had rheumatic heart disease. In one case the mother had a history of chorea. We have found none that we could put down definitely as now having a rheumatic heart. Possibly some of the other departments may have seen some among students but it does not appear on the record.

In regard to syphilis, we have had only one admitted who reported that he had a lesion. In time we can go back to the medical records in the academic pre-medical school and see if there were instances recorded by their medical officer but, to date, this is the only case reported.

There have been cardiac irregularities in two, or 0.5 per cent. Three, or 0.8 per cent, were found with suspected organic murmurs.

In this group, a number of students with hypertension were found. These students come to us in a very calm attitude but some few show anxiety. We have always insisted that blood pressure recordings should be taken at repeated readings. About 4 per cent have shown persistent readings with a systolic pressure above 135. Call it high or low, these students are only 22 to 23 years of age and with a persistent reading like that, they bear watching. Probably of little significance but of considerable interest is the fact that 4 per cent of them remembered that their parents had died of hypertensive conditions or had been told they had it by their physicians.

Two per cent of the students have had chronic recurrent appendicitis. Two per cent have had albuminuria and in none of those has the real cause of albuminuria been satisfactorily demonstrated. Consultations have assisted us greatly. Various other tests have been negative and we have not been able to diagnose actual nephritis in any of them. Only three said that they had had pneumonia and, of those, one reported he had had it five times.

These students have not shown any evidence of malignant tumors. From their own knowledge, 37 of them, or 9.2 per cent, reported that they have had death in their immediate parentage from malignancy. I think that might be of interest to us in further studies. It is higher than the incidence of tuberculosis. We do not know what the other generations showed, but that does seem high for the actual known deaths from these circumstances in these same families. On the same basis, gastric ulcer was known to have existed in four, or only one per cent. In the students it was found in two, or 0.5 per cent.

The analysis so far has covered the incidence of those conditions that account for 60 per cent of the deaths in this age group. Among the miscellaneous conditions that are not such severe hazards for the next five years there were, in the developmental defects, three with pilonidal sinus, one cryptorchidism, one with defect of thumb, one with supernumerary nipples; underweight was marked in seven, or 1.8 per cent; significant overweight was present in six cases, or 1.5 per cent; variocele was found in eight, or two per cent. Twenty-five had upper respiratory infections which required treatment. Among chronic conditions for which they had more or less been under prolonged or persistent care for a number of years, the following were noted: Five with bronchiectasis; ten with gonococcal urethritis; three with hookworm; one with ascariasis; 14 with amebiasis (3.5 per cent); four had recently had malaria. Only one student examined showed glycosuria and he was never shown to have any definite findings of diabetes. Seventeen, or 4.2 per cent, reported asthma and hay fever, while the familial incidence in these same students was eight, or two per cent. Two had unexplained hematuria, for which we were unable to determine the cause. One had mediastinal tumor.

I do not intend to draw any conclusions. The subject is entirely too broad. It was presented because all other departments of the clinic receive these patients in consultations or as transfers and we are urging that this service be expanded as far as possible. I do not think that we are giving enough medical service to these students. Many of them will not and cannot come back to us, due to the pressure of time in their heavy courses, or because they have freedom of choice in selecting their physician.

With expansion of the services of preventive medicine throughout the clinic we anticipate a time when all medical students will receive continuous attention to their state of health in order that it may be maintained or restored to a high level of effective living.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR

April 3.	Board of Directors, Orleans Parish Medical Society, 8 p. m.
April 4.	Eye, Ear, Nose and Throat Hospital Staff, 8 p. m.
April 5.	Radio Talk, Orleans Parish Medical Society, WDSU, 9:15 to 9:30 a. m. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m. Hutchinson Memorial Clinic Staff, 8 p. m.
April 6.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m. New Orleans Hospital Council, Marine Hospital. Dinner 6 p. m.
April 10.	Orleans Parish Medical Society, 8 p. m.
April 11.	Eye, Ear, Nose and Throat Club, 8 p. m.
April 12.	Radio Talk, Orleans Parish Medical Society, WDSU, 9:15 to 9:30 a. m. Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m. Touro Infirmary Staff, 8 p. m.
April 17.	Hotel Dieu Staff, 8 p. m.
April 16.	Charity Hospital Medical Staff, 8 p. m.
April 19.	Radio Talk, Orleans Parish Medical Society, WDSU, 9:15 to 9:30 a. m. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
April 20.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
April 21.	I. C. R. R. Hospital Staff, 12 noon. New Orleans Dispensary Staff, 8 p. m.
April 24-26.	Louisiana State Medical Society, Alexandria, Louisiana.
April 25.	Baptist Hospital Staff, 8 p. m.
April 26.	Radio Talk, Orleans Parish Medical Society, WDSU, 9:15 to 9:30 a. m. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m. French Hospital Staff, 8 p. m.
April 27.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m. L. S. U. Faculty Club, 8 p. m.

CHANGE IN TELEPHONE NUMBER

Orleans Parish Medical Society and Louisiana
State Medical Society
MAgnolia 3281-2

During the month of March, the society held a joint meeting with the New Orleans Gynecological and Obstetrical Society on March 13. Dr. Charles Galloway, Assistant Professor of Obstetrics and Gynecology at Northwestern University Medical School, Evanston, Illinois, was the guest speaker and presented a paper on "Pathology of the Cervix" illustrated with natural color photography.

At this meeting the society voted favorably on a resolution to have one scientific meeting a month, and that the combined meetings held with the Charity Hospital Staff, the New Orleans Gynecological and Obstetrical Society, the New Orleans Graduate Medical Assembly, and the Chaillé Oration be additional meetings and not to conflict with the regular monthly meetings.

The meeting scheduled for March 27 was dispensed with because of conflict with the meeting of the American College of Physicians.

The following doctors were elected to membership: Active: Drs. Rufus H. Alldredge, Martha W. MacDonald, Lee C. Schlesinger, and Joseph W. Wells. Associate: Dr. George W. McCoy. Intern: Drs. Irving Baer, Woodard D. Beacham, and Emile Maltry, Jr.

NEWS ITEMS

The membership of the Orleans Parish Medical Society turned out in large numbers at the sessions of the meeting of the American College of Physicians.

Dr. Isidore Cohn attended the meeting of the Fracture Committee of the American College of Surgeons in Philadelphia, February 10-11, with Dr. Charles B. Odom as a guest of the committee.

Dr. Roy B. Harrison was installed as President of the Federation of State Medical Boards at the meeting in Chicago, February 13-14.

Dr. Oscar Bethea addressed the Rotary Club, February 23.

Drs. William B. Clark and E. Garland Walls were on the program of the Fifth District Eye, Ear, Nose and Throat Medical Society, Monroe, February 21.

Drs. Alton Ochsner and Rawley M. Penick, Jr., addressed the Charity Hospital Intern Corps, February 28.

Dr. George W. McCoy, recently spent a week in Texas in conection with his studies for the United States Public Health Service on the prevalence and spread of leprosy.

Dr. Daniel N. Silverman gave one of the Max Ballin Annual Memorial Lectures at Detroit, March 8.

Drs. Wiley R. Buffington, Michael E. DeBakey, Mims Gage, Howard Mahorner, and Neal Owens attended the Southeastern Surgical Congress in Atlanta, March 6-8.

Taking part in a Symposium on Recent Advances in Medicine, February 27, before the New Orleans Academy of Sciences, were Drs. Albert E. Casey, Henry Laurens, and Roy H. Turner.

Dr. Rudolph Matas was awarded the officer's cross in the Order of Leopold by King Leopold III of Belgium for his work in promoting and alleviating the horrors of war.

Dr. Maud Loeber was honored by the Quota Club of New Orleans, on February 28, for her attainments in the profession of medicine.

Dr. Neal Owens was made a member of the Founders' Group of the American Board of Plastic Surgery.

Drs. Frank Brostrom and Guy A. Caldwell addressed the Louisiana Society for Crippled Children, March 7.

Dr. Florence Gilpin spoke before the Parent-Teacher Association of McDonogh No. 14 School, March 9.

Dr. Henry J. Lindner talked before the Health Builders' Club on March 14.

Dr. Alton Ochsner conducted a medical institute for the staff of the Valley View Hospital at Ada, Oklahoma, March 13-14.

Drs. D. J. Graubarth, J. W. Reddoch and H. Weinberg spoke to the Young Women's Christian Association during "Health Week," March 13-19, an annual event of this association.

Dr. Julius Lane Wilson talked before the Louisiana Dietetic Association, March 15.

Drs. John A. Lanford, James T. Nix and Alton Ochsner met with the Louisiana State Medical Society Cancer Committee, March 12, in Alexandria at a special called meeting of the Women's Field Army.

Drs. Warren Hebert and Howard Mahorner addressed the Calhoun County Medical Society at Anniston, Alabama, March 21.

Drs. Béla Halpert, Sydney Jacobs and Samuel B. Nadler presented papers before the eighty-sixth annual meeting of the New Orleans Academy of Sciences, March 17-18.

Dr. Martha MacDonald was a guest speaker on March 30 before the Auxiliary of the Milne-Municipal Boys' Home.

Dr. George F. Roeling has been appointed on the neuropsychiatric consultant staff of the Devereux Tutoring School in Berwyn, Pennsylvania.

Dr. John A. Lanford was recently elected to the Board of Directors of the American Society for the Control of Cancer.

Dr. George S. Bel was awarded an honorary fellowship by the Aristides Agramonte Chapter of the Gorgas Medical Society, for "outstanding achievements in the realm of science and his high character as a man."

Dr. William Harvey Perkins was elected vice-president of the Jefferson Medical College Alumni Association to represent the State of Louisiana.

Dr. Carl N. Wahl was appointed instructor in the Department of Surgery at Louisiana State University, School of Medicine.

TREASURER'S REPORT

Actual book balance 1-31-39	$4,911.13
February credits	$1,187.43
Total credits	$6,098.56
February expenditures	$1,375.52
Actual book balance 2-28-39	$4,723.04

LIBRARIAN'S REPORT

During February, 155 volumes have been added to the Library. Of these, 115 were received by gift, 25 by binding and 15 from the New Orleans Medical and Surgical Journal. New titles of recent date are listed below.

The Library has loaned to physicians during February, 800 books and journals. In addition, 1,117 items have been loaned to students for overnight use, making a total of 1,917 for the month.

Members of the staff have collected material on the following subjects during the month:

Abnormalities of the innominate artery.
Heredity and environment.
Mechanics of death.
Pharmacology of sulfanilamide.
Sialography.
Virulence of negro blood.

This notation does not include the great number of questions which are answered at once by consultation of a textbook or by the use of the card catalog.

NEW BOOKS

Collie, Sir John: Fraud in Medico-Legal Practice, 1932.
Creed, R. S.: Reflex Activity of the Spinal Cord, 1932.
Dodge, Raymond: Conditions and Consequences of Human Variability, 1931.
DeLee, J. B., ed.: Yearbook of Obstetrics and Gynecology, 1930-31.
Butler, G. F., ed.: Yearbook of Materia Medica and Therapeutics, 1930-31.
Hrdlicka, Ales: Children Who Run on All Fours, 1931.
Hinsie, L. E.: Treatment of Schizophrenia, 1930.
Heath, Esther: Approach to the Parent, 1933.
Williams, H. S.: Drug Addicts are Human Beings, 1938.
Jacobson, Edmund: You Can Sleep Well, 1938.
Long, W. B.: Handbook of Social Hygiene, 1938.
Young, F. B.: Dr. Bradley Rembers, 1938.
Maxson, L. H.: Spinal Anesthesia, 1938.
Major, R. H.: Classic Descriptions of Disease, 1939.
Berkeley, Sir Comyns, ed.: Midwifery, 1938.
Leder, F. L.: Diseases of the Ear, Nose and Throat, 1938.
Kronfeld, P. C.: Introduction to Ophthalmology, 1938.
Morrison, W. W.: Diseases of the Nose, Throat and Ear, 1938.
Dicks, G. F.: Scarlet Fever, 1938.
Mönnig, H. D.: Veterinary Helminthology and Entomology, 1938.
Thorek, Max: Modern Surgical Technic, 3v., 1938.
Tomblyn, W. F.: These Sixty Years, 1938.
Schöpp, Maximilian: Mitteilungen Eines weiteren Falles von decorticato cordis, 1936.

Gilbert C. Anderson, M. D.,
Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

Louisiana State Medical Society	April 24-26, 1939	Alexandria.

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Wednesday of every month	Baton Rouge.
East and West Feliciana	First Wednesday in June	Jackson.
Morehouse	Second Tuesday of every month	Bastrop.
Orleans	Second and fourth Monday of every month	New Orleans.
Ouachita	First Thursday of every month	Monroe.
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	

ALEXANDRIA— IN THE HEART OF LOUISIANA— INVITES ALL MEMBERS OF THE LOUISIANA STATE MEDICAL SOCIETY TO ATTEND THE ANNUAL MEETING

Alexandria is in the heart of the state, with railroads from every direction, and paved highways leading to it from every parish. It is within a few hours drive from every section. Those who cannot be away for more than 12 to 24 hours, can easily drive to Alexandria, attend the day's scientific programs, and drive home by bedtime, a feat that can be done only in a central location such as is Alexandria's. It has the newest and finest hotel in the state.

All meetings are grouped about the Hotel Bentley, and it will be very easy to hear just those papers that one wishes to with little loss of time in traveling from one section to another.

There will be a real old-fashioned barbecue at noon, April 25, and a dance at 10 p. m. Dress as you please, and you will be welcome. Alexandria's prettiest girls will be there to dance with you.

There will be lots of things that you cannot afford to miss, so do not miss them.

Alexandria wants you, and will make you glad you came.

Committees on Arrangements.

P. S.—Bring the wife, too. The Woman's Auxiliary will keep her entertained.

The Louisiana State Medical Society meets in Alexandria, Louisiana, April 24-26. Since Alexandria is centrally located, the largest gathering of physicians in the history of Louisiana is expected.

Medical science has made such great progress in the last few years that no physician can keep up with the strides of progress unless he attends some of the meetings which disseminate information. A great program has been arranged for the three days. There will be many scientific papers and there will be much said about the recent advances in chemotherapy.

A nice program of entertainment has been arranged so as to provide spice and variety. There will be a number of exhibits for those who wish to see things new.

If you have not made hotel reservation communicate with Dr. L. D. Gremillion, or direct with the hotels.

H. O. Barker, M. D.,
Chairman, Publicity Committee.

SCIENTIFIC PROGRAM
SECTION ON BACTERIOLOGY AND PATHOLOGY

Dr. George H. Hauser, Chairman
New Orleans

1. Some Observations on Viruses—Dr. J. Rigney D'Aunoy, New Orleans.
   To open discussion—Dr. L. A. Hebert, Lake Charles.
2. Endometrial Changes and Their Relation to Ovarian Dysfunction—Dr. J. R. Kriz and Dr. H. J. Schattenberg, New Orleans.
   To open discussion—Dr. John S. Couret, New Orleans.
   Followed by—Dr. John A. Lanford, New Orleans.
3. Schistosomiasis with Report of a Case—Dr. George H. Hauser, New Orleans.
   To open discussion—Dr. W. R. Mathews, Shreveport.

SECTION ON EYE, EAR, NOSE AND THROAT

Dr. H. Ashton Thomas, Chairman
New Orleans

1. The Mode of Action of X-ray in Otitis Media—Dr. L. L. Titche, Monroe.
   To open discussion—Dr. F. C. Bennett, Monroe.

2. The Twisted Nose—Dr. Waldemar R. Metz, New Orleans.
   To open discussion—Dr. Charles L. Cox, New Orleans.
3. Cataract—Dr. George M. Haik, New Orleans.
   To open dicsussion—Dr. T. J. Dimitry, New Orleans.
4. Fractures of the Malar Bone with Eye, Ear, Nose and Throat Complications—Dr. Monte F. Meyer, New Orleans.
   To open discussion—Dr. James T. Nix, New Orleans.
5. The Eye and Its Care—Dr. Leon F. Gray, Shreveport.

SECTION ON GASTRO-ENTEROLOGY

Dr. D. C. Browne, Chairman
New Orleans

1. Hepatitis: Its Etiology, Diagnosis and Treatment—Dr. Sidney A. Portis, Chicago.
   To open discussion—Dr. D. N. Silverman, New Orleans.
   Followed by—Dr. Allan Eustis, New Orleans.
2. The Symptoms, Diagnosis and Treatment of Pellagra with Special Reference to the Use of Nicotinic Acid—Dr. J. Preston Davis, Lake Providence.
   To open discussion—Dr. D. B. Barber, Alexandria.
   Followed by—Dr. Louis Ochs, New Orleans.

SECTION ON GENERAL SURGERY

Dr. R. O. Simmons, Chairman
Alexandria

1. The Use of an Anatomicophysiologic Incision in Appendicitis—Dr. H. S. Coon, Monroe.
   To open discussion—Dr. D. B. Barber, Alexandria.
2. Some Problems in the Surgical Treatment of Thyroid Disease—Dr. J. E. Heard, Shreveport.
   To open discussion—Dr. P. D. Abramson, Shreveport.
3. Treatment of Acute Empyema—Dr. Rawley M. Penick, Jr., New Orleans.
   To open discussion—Dr. Mims Gage, New Orleans.
4. The Diagnosis and Treatment of Osteomyelitis of the Neck of the Femur—Dr. Walter Moss, Lake Charles.
   To open discussion—Dr. Ambrose H. Storck, New Orleans.
5. Perforated Peptic Ulcer: An Analysis of 195 Cases—Dr. Charles B. Odom and Dr. Michael DeBakey, New Orleans.
   To open discussion—Dr. Alton Ochsner, New Orleans.
6. Peritendinitis Calcarea—Dr. Sidney M. Copland and Dr. Marshall L. Michel, Jr., New Orleans.
   To open discussion—Dr. M. E. DeBakey, New Orleans.
7. The Symptoms and Diagnosis of Carcinoma of the Rectum—Dr. Warren H. Hebert, New Orleans.
   To open discussion—Dr. John G. Snelling, Monroe.

SECTION ON GYNECOLOGY AND OBSTETRICS

Dr. W. L. Bendel, Chairman
Monroe

1. Methods Used in the Induction of Labor—Dr. M. B. Pearce, Alexandria.
   To open discussion—Dr. E. L. King, New Orleans.
   Followed by—Dr. W. L. Bendel, Monroe.
2. Consideration of Carcinoma of the Uterus—Dr. James C. Masson, Rochester, Minnesota.
   To open discussion—Dr. Peter Graffagnino, New Orleans.
   Followed by—Dr. George W. Wright, Monroe.
   Followed by—Dr. D. C. McBride, Alexandria.
3. Extra-uterine Pregnancy—Dr. C. P. Gray, Sr., and Dr. C. P. Gray, Jr., Monroe.
   To open discussion—Dr. Hilliard Miller, New Orleans.
   Followed by—Dr. King Rand, Alexandria.
4. The Delivery of the Breech (Moving Pictures) —Dr. George Mayer, New Orleans.
   To open discussion—Dr. Rhett McMahon, Baton Rouge.
   Followed by—Dr. Curtis H. Tyrone, New Orleans.
   Followed by—Dr. J. T. Cappel, Alexandria.

SECTION ON MEDICINE AND THERAPEUTICS

Dr. C. J. Tripoli, Chairman
New Orleans

1. Concepts of the Treatment of Hypertension—Dr. I. L. Robbins, New Orleans.
   To open discussion—Dr. Edgar Hull, New Orleans.
   Followed by—Dr. Chaille Jamison, New Orleans.
2. Cor Pulmonale—Dr. B. R. Heninger, New Orleans.
   To open discussion—Dr. J. E. Knighton, Sr., Shreveport.
3. Dispensary Service for the Tuberculous—Dr. Sydney Jacobs, New Orleans.
   To open discussion—Dr. J. H. Musser, New Orleans.
   Followed by—Dr. A. J. Hockett, New Orleans.
4. Dissecting Aneurysms—Dr. M. D. Hargrove, Shreveport.
   To open discussion—Dr. J. H. Musser, New Orleans.
   Followed by—Dr. W. R. Mathews, Shreveport.

5. The Use of Theophylline Ethylenediamine (Aminophylline) in Bronchial Asthma—Dr. B. G. Efron and Dr. Peter Everett, New Orleans.
   To open discussion—Dr. J. H. Musser, New Orleans.
6. Diagnostic Survey of the Allergic Patient—Dr. N. K. Edrington, New Orleans.
   To open discussion—Dr. W. H. Browning, Shreveport.
   Followed by—Dr. Allan Eustis, New Orleans.
7. The Incidence of Peptic Ulcer in the Negro—Dr. Maurice Campagna, New Orleans.
   To open discussion—Dr. Chaille Jamison, New Orleans.
   Followed by—Dr. M. E. DeBakey, New Orleans.

SECTION ON NERVOUS DISEASES

Dr. S. J. Phillips, Chairman
Pineville

1. Mistakes Commonly Made in the Treatment of Syphilis of the Nervous System—Dr. C. S. Holbrook, New Orleans.
   To open discussion—Dr. E. McC. Connely, New Orleans.
   Followed by—Dr. C. S. Miller, Jackson.
2. Emotional Factors in Disease—Dr. T. A. Watters, New Orleans.
   To open discussion—Dr. M. S. Freiman, Pineville.
3. Metrazol Therapy in Psychotic Excitements—Dr. Dean H. Duncan, Shreveport, and Dr. E. N. Carmouche, Pineville.

SECTION ON ORTHOPEDIC SURGERY

Dr. H. T. Simon, Chairman
New Orleans

1. Scoliosis: Its Prognosis and Treatment—Dr. H. A. Durham, Shreveport.
   To open discussion—Dr. A. Scott Hamilton, Monroe.
2. The More Common Fractures of the Bones of the Hand (Lantern Slides)—Dr. Albert A. Tisdale, Lafayette.
   To open discussion—Dr. Guy A. Caldwell, New Orleans.

SECTION ON PEDIATRICS

Dr. E. A. Socola, Chairman
New Orleans

1. Technical and Practical Aspects of Milk Control—Dr. P. S. Parrino, Franklin.
   To open discussion—Dr. Maud Loeber, New Orleans.
2. Milk in Its Relation to the Public Health—Dr. Robert A. Strong, New Orleans.
   To open discussion—Dr. R. E. de la Houssaye, New Orleans.
   Followed by—Dr. Julian Graubarth, New Orleans.
3. Convalescent Serum in Treatment of Common Contagious Diseases of Childhood—Dr. R. T. Lucas, Shreveport.
   To open discussion—Dr. H. Aubrey White, Alexandria.
   Followed by—Dr. Robert A. Strong, New Orleans.

SECTION ON PUBLIC HEALTH AND SANITATION

Dr. W. J. Sandidge, Chairman
Shreveport

1. The Present Concept of Cancer—Dr. James T. Nix, New Orleans.
2. Undulant Fever: A Problem in Every Physician's Practice—Dr. W. H. Browning, Shreveport.
   To open discussion—Dr. M. B. Pearce, Alexandria.
3. Public Health Aspects of the Syphilitic Patient—Dr. A. L. Adam, Shreveport.
   To open discussion—Dr. D. T. Milam, Monroe.
4. Pneumococcus Pneumonia: Treatment with Type Specific Serum—Dr. Claude D. Head, Jr., New Orleans.

SECTION ON RADIOLOGY

Dr. L. J. Williams, Chairman
Baton Rouge

1. Irradiation Therapy in Endocrine Dysfunction—Dr. J. N. Ané and Dr. Leon J. Menville, New Orleans.
   To open discussion—Dr. L. J. Williams, Baton Rouge.
   Followed by—Dr. C. P. Rutledge, Shreveport.
2. Radiology versus Pseudo-radiology—Dr. Stakely Hatchette, Lake Charles.
   To open discussion—Dr. S. C. Barrow, Shreveport.
   Followed by—Dr. Walter Moss, Lake Charles.
   Followed by—Dr. J. H. Musser, New Orleans.
3. Radium Treatment of Hemangiomata, (Lantern Slides)—Dr. W. R. Harwell, Shreveport.
   To open discussion—Dr. C. P. Rutledge, Shreveport.

SECTION ON UROLOGY

Dr. J. G. Menville, Chairman
New Orleans

1. The Management of Urinary Infections during Pregnancy—Dr. U. S. Hargrove, Baton Rouge.
   To open discussion—Dr. W. E. Kittredge, New Orleans.
   Followed by—Dr. W. H. Cook, Baton Rouge.
2. The Diagnosis and Treatment of Urinary Infections in Children—Dr. J. D. Youman, Shreveport.

To open discussion—Dr. Hugh T. Beacham, New Orleans.

Followed by—Dr. S. George Wolfe, Shreveport.

THE PRESIDENT

Joseph A. O'Hara was born in New Orleans, 1869, son of Joseph and Anna (Norris) O'Hara. He was educated at the Jesuits High School and Tulane University, graduating from this institution in 1900. Dr. O'Hara enjoyed an active practice in medicine in New Orleans for many years. In addition to these professional duties, he was coroner of the parish from 1904 to 1920. In 1928 Dr. O'Hara was appointed President of the Louisiana State Board of Health, a position which he holds at the present time and which he fills with honor and distinction. Dr. O'Hara's interest in medicine began before he entered medical school. He was active in the campaigns against yellow fever from 1897 to 1905, and was President of the Screening Project against Mosquitoes in the Tenth Ward. During the World War, he worked with the Draft Boards of the city.

Dr. O'Hara is one of the outstanding health officers in the United States. He has been most active in maintaining public health standards in the State of Louisiana and in advancing preventive medicine. His accomplishments as a state officer of health are numerous and invaluable to the health of the citizens of the state. He is a sponsor of the Universal Standard Laws for the Rigid Enforcement of Traffic Regulations in the State of Louisiana and President of the Louisiana State Tuberculosis Commission. He holds membership in many national societies including the American Medical Association, Southern Medical Association, American Society of Advanced Sciences, American Public Health Association, American Psychiatric Association, International Society of Health Officers, and Conference of State and Territorial Health Officers.

The State Society is fortunate in having as their executive officer a man who is not only distinguished for his charming personality, but one who is interested as well in the individual physician and in the problems which he has to meet.

THIRD DISTRICT MEDICAL SOCIETY

The regular quarterly meeting of the Third District Medical Society was held at the home of Dr. S. D. Yongue, Breaux Bridge, at 7:30 p. m., Thursday, March 16. Dr. W. J. Yongue, president, presided.

Two papers were presented on the scientific program: "Incidence of Neurosyphilis in Previously Treated Cases of Syphilis" by Dr. Louie G. Martin, of Hot Springs, Ark.; "Immediate and Late Care of Burns" by Dr. Neal Owens, of New Orleans.

R. Sidney Hernandez, M. D., Sec.

OUACHITA PARISH MEDICAL SOCIETY

The regular monthly meeting was called to order on March 2 at 7:30 p. m. by Dr. John Pracher, president.

The first paper on "Atypical Ectopic Pregnancy" was presented by Dr. C. P. Gray, Jr., and discussed by Drs. Wood, and Gray, Sr. The second paper was on "Pneumoarthrography of the Knee" by Dr. A. Scott Hamilton. This was well illustrated by lantern slides. Discussion of the paper was opened by Dr. Gray, Sr.

A letter was read from Mrs. Mary Lou Shaughnessy in regard to the reporting of births and deaths to the Bureau of Vital Statistics. A letter from Dr. Talbot regarding the amendments to be presented at the State Convention was also read.

General discussion of the entertainment to be given the Auxiliary took place, and the Entertainment Committee was requested to report at the next meeting.

Dr. Gray, Sr., and Dr. Hamilton then discussed the question of placing journals in a section of the Public Library and the binding of these journals. This matter was tabled for discussion at a future time.

L. L. Titche, M. D., Sec.

POINTE COUPEE PARISH MEDICAL SOCIETY

The second quarterly meeting of the Pointe Coupee Parish Medical Society was held at New

Roads, Tuesday, March 7. In the absence of the speaker of the evening, a round table discussion was conducted, concerning public health work in general and venereal disease control in particular.

Dentists of the parish attended the meeting as guests of the society. Those present were entertained by Dr. E. G. Durel at supper.

Several small items of official business were transacted, after which the meeting adjourned.

E. G. Durel, M. D., Sec.

FRANKLIN PARISH MEDICAL SOCIETY

A regular meeting of the Franklin Parish Medical Society was held at the American Legion Hall, Winnsboro, on March 8, presided over by Dr. H. T. Rogers, president.

After the usual order of business, a paper was read by Dr. M. W. Hunter, of Monroe, on "Coronary Occlusion"; there was also a paper by Dr. R. Alec Brown, of New Orleans, on "The Treatment Aspects of Tuberculosis." Both papers were freely discussed by the membership.

Dr. Marvyn Johnson, of Monroe, made a talk in the interest of the Fifth District Medical Society, and Dr. C. P. Gray, of Monroe, stressed the need of membership in the State Society.

Dr. H. T. Rogers was elected delegate to the State Convention, and Dr. R. E. Applewhite alternate delegate.

R. E. Applewhite, M. D., Sec.

BOSSIER PARISH MEDICAL SOCIETY

At a meeting held in Benton, February 7, the following officers were elected for the year 1939: Dr. W. F. Bell, Plain Dealing, president; Dr. D. C. McCuller, Bossier City, vice-president and delegate; Dr. Thomas B. White, Plain Dealing, secretary-treasurer and alternate delegate.

John B. Hall, M. D., Sec.

IBERIA PARISH MEDICAL SOCIETY OFFICERS, 1939

President: Dr. L. M. Villien, Jeanerette.
Vice-President: Dr. H. M. Flory, New Iberia.
Secretary-Treasurer: Dr. B. L. Stinson, New Iberia.
Delegate: Dr. W. P. Tilly, New Iberia.
Alternate: Dr. E. T. Duncan, Weeks.

ST. LANDRY PARISH MEDICAL SOCIETY

At a regular meeting of the St. Landry Parish Medical Society held in Opelousas, February 9, the following officers were elected: Drs. W. C. Littell, Opelousas, president; C. W. Lewis, Eunice, vice-president; Franklin V. Boyd, Opelousas, secretary-treasurer; Fred J. Mayer, Opelousas, delegate; A. B. Pavy, Opelousas, alternate.

Drs. Littell and Boyd were appointed counselors to the Woman's Auxiliary to the St. Landry Parish Medical Society.

Franklin V. Boyd, M. D., Sec.

MONROE EYE, EAR, NOSE AND THROAT MEDICAL SOCIETY

On January 21, the men doing eye, ear, nose and throat work in Monroe met for the purpose of organizing the Monroe Eye, Ear, Nose and Throat Medical Society. The following officers were elected: Drs. W. Marvyn Johnson, president; F. C. Bennett, vice-president; C. B. Flinn, secretary-treasurer.

Drs. William B. Clark and E. Garland Walls were guest speakers before the Monroe Eye, Ear, Nose and Throat Medical Society, February 21.

NEW ORLEANS ACADEMY OF SCIENCES

The eighty-sixth annual meeting of the New Orleans Academy of Sciences was held at Tulane University, March 17 and 18. Among those appearing on the program of the Section on Medical Sciences, Section D, were Drs. Sydney Jacobs, Samuel B. Nadler, Béla Halpert, Julius L. Wilson, and Julius Bauer.

GASTRO-ENTEROLOGICAL ASSOCIATION

There was a meeting of the National Gastroenterological Association and the Marine Hospital staff at the Marine Hospital on Thursday, March 9, at 8 p. m. Papers were presented by Drs. Julius Bauer, Alton Ochsner, Isidore Cohn, and W. L. Smith.

P. L. Querens, M. D., Sec.

AMERICAN BOARD OF INTERNAL MEDICINE, INC.

Written examinations for certification by the American Board of Internal Medicine will be held in various sections of the United States on the third Monday in October and the third Monday in February.

Formal application must be received by the Secretary before August 20, 1939 for the October 16, 1939 examination, and on or before January 1 for the February 19, 1940 examination.

Application forms may be obtained from Dr. William S. Middleton, Secretary-Treasurer, 1301 University Avenue, Madison, Wisconsin.

NATIONAL TUBERCULOSIS ASSOCIATION

The thirty-fifth annual meeting of this great national organization will be held in Boston, June 26-29. A truly edifying program of clinico-pathologic conferences, clinics, essays, symposia and section work has been arranged by the committee in charge.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

Application for admission to the Group A, May 1939, Board examinations must be on file in the secretary's office not later than March 15, 1939.

Candidates for re-examination in Part II

(Groups A and B), must request such re-examination by writing the secretary's office before March 15, 1939. Candidates who are required to take re-examinations must do so before the expiration of three years from the date of their first examination.

Application blanks and booklets of information may be obtained from Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

FOLDER ON SYPHILIS

The United States Public Service announces that a companion folder to "Syphilis—Its Cause, Its Spread, Its Cure" has been published of which more than 800,000 copies have been sold. This is entitled "Syphilis and Your Town" and outlines the essential points of a community control program. Copies may be obtained from the Superintendent of Documents, Washington, D. C., for one dollar per hundred copies.

AMERICAN COLLEGE OF PHYSICIANS

The American College of Physicians met in New Orleans, March 27-31, 1939. There was a large registration and the meeting was a success in every way.

AMERICAN HEART ASSOCIATION, INC.

The fourteenth scientific sessions of the association will be held at the Hotel Jefferson, St. Louis, Missouri. The general cardiac program will be given on Friday, May 12, and the program of the Section for the Study of the Peripheral Circulation on Saturday, May 13.

MEDICAL MILITARY COURSE AT TULANE

The Medical Military Training Course will be held at Tulane University from April 11 to 22. This course is under the auspices of the Medical Corps of the United States Army and the Department of Graduate Medical Studies of the Tulane Medical School. A most attractive series of lectures has been arranged for the officers and members of the Medical Department of the Army.

Last year this course of one week met with such enthusiasm that it was necessary to make a request for the course to be enlarged to two weeks. Medical Reserve Officers attending this course will receive credit for it.

INTERNSHIP

The California State Personnel Board is anxious to recruit the best qualified persons for Student Intern and Senior Intern. To accomplish this we ask your help in publicizing civil service examinations for these positions.

There is no residence requirement for these examinations and no written test will be given. Applicants will be rated on education, experience and appraisal of scholastic record. Applications may be filed at any time during 1939 and will be rated immediately. If a candidate's qualifications, after investigation, are acceptable, his name will be placed on the list of those eligible for employment in accordance with his rating.

The sixty-eighth annual meeting of the American Public Health Association will be held in Pittsburgh, October 17-20, 1939, with headquarters at the William Penn Hotel.

The Postgraduate Surgical Assembly of the Southeastern Surgical Conference was held at the Biltmore Hotel, Atlanta, March 6-8. Appearing on the program, amongst others, were the following New Orleans' physicians: Drs. Howard R. Mahorner, Mims Gage, and W. R. Buffington.

The C. Jeff Miller lecture was delivered by Dr. Irvin Abell, President of the American Medical Association.

NEWS ITEMS

Dr. Leon J. Menville addressed the Mobile County Medical Society, March 18, on "Irradiation Therapy in the Endocrinology."

Dr. W. H. Hoffmann, Director in the Finlay Institute, Yellow Fever Department, Havana, has been nominated Honorary Member of the Robert Koch Institute, Berlin.

Dr. Isidore Cohn, Associate Director of the Department of Surgery of the Graduate School of Medicine, Louisiana State University Medical Center, attended the meeting of the Fracture Committee of the American College of Surgeons in Philadelphia on February 10-11. Dr. Charles Odom, surgical officer at Charity Hospital, attended the meeting also with Dr. Cohn as a guest of the Committee.

Dr. Charles Bloom, Director of the Department of Pediatrics of the Graduate School of Medicine, Louisiana State University Medical Center, addressed the Tangipahoa Parish Medical Society on "Upper Respiratory Infections in Infancy and Childhood" on Thursday, January 5, 1939, at Hammond, Louisiana. On January 19, 1939, Dr. Bloom spoke before the Second District Medical Society on "Infant Feeding and Foods." On March 3, Dr. Bloom addressed the Iberville Parish Medical Society, at Plaquemine, on "Appendicitis in Infancy and Childhood."

Dr. Daniel N. Silverman, Director of the Division of Gastro-enterology, Graduate School of Medicine, Louisiana State University Medical Center, has been invited to give one of the Max Ballin Annual

Memorial Lectures at Detroit on March 8. Dr. Silverman will hold a clinic and give a lecture on "The Newer Knowledge of Bacillary Dysentery with Particular Reference to Diagnosis and Complications."

Dr. Silverman will also read a paper on "Perforations of the Colon Complicating Bacillary Dysentery" at the annual meeting of the American Gastro-enterological Association on May 1 and 2 at Atlantic City.

Applications for the position of Associate Medical Officer in the Veterans' Administration must be filed with the United States Civil Service Commission before April 10, 1939. An Associate Medical Officer in the Veterans' Administration is paid a salary of $3,200 a year; his duties are "to perform professional duties as a doctor of medicine in active practice in hospitals, in dispensaries, in facilities, or in the field." Application blanks may be obtained at the Customhouse in New Orleans, or by writing the Secretary of the Board of United States Civil Service Examiners, Washington, D. C.

WANTED

COPIES OF THE JANUARY AND MARCH, 1939 ISSUES OF THE JOURNAL! Phone Raymond 6361 if you have one. We will be glad to call for it.

The American Association of Obstetricians, Gynecologists and Abdominal Surgeons announces that the annual Foundation Prize for this year will be $100.00. Those eligible include only (1) interns, residents, or graduate students in Obstetrics, Gynecology and Abdominal Surgery, and (2) physicians (M. D. degree) who are actually practicing or teaching Obstetrics, Gynecology or Abdominal Surgery.

Competing manuscripts must (1) be presented in triplicate under a nom-de-plume to the Secretary of the Association before June 1, (2) be limited to 5,000 words and such illustrations as are necessary for a clear exposition of the thesis, and (3) be typewritten (double-spaced) on one side of the sheets, with ample margins.

The successful thesis must be presented at the next annual (September) meeting of the Association, without expense to the Association and in conformity with its regulations.

For further details, address Dr. James R. Bloss, Secretary, 418 11th Street, Huntington, W. Va.

The American Physicians' Art Association composed of members in the United States, Canada, and Hawaii, will hold its second Art Exhibit in the City Art Museum of St. Louis, May 14-20, 1939, during the annual session of the American Medical Association. Art pieces will be accepted for this art show in the following classifications: (1) oils, both (a) portrait and (b) landscape; (2) water colors; (3) sculpture; (4) photographic art; (5) etchings; (6) ceramics; (7) pastels; (8) charcoal drawings; (9) book-binding; (10) wood carving; (11) metal work (jewelry). Practically all pieces sent in will be accepted. There will be over 60 valuable prize awards. For details of membership in this Association and rules of the Exhibit, kindly write to Max Thorek, M. D., Secretary, 850 Irving Park Blvd., Chicago, Ill., or F. H. Redewill, M. D., President, 521-536 Flood Bldg., San Francisco, Calif.

FEDERAL PARTICIPATION IN GRADUATE MEDICAL EDUCATION

With the passage of the Social Security Act in 1935, there occurred a sudden and often an initial participation of various state agencies, under the impetus of federal grants, in the extension training of practicing physicians. Under the present interpretation of the Act, graduate teaching may originate locally within each state, may be administered locally under the supervision or approval of the state, with financial participation by the state itself, but must finally be approved by the proper bureaus in Washington before federal funds are allocated.

The state agency, usually the health department, must also provide for cooperation with medical, nursing and welfare organizations.

The United States Public Health Service receives $8,000,000 under the Act each year and, stimulated by federal grants in aid, the state and local appropriations for public health purposes have increased $8,000,000 annually. During the fiscal year ended June 30, 1938, $1,116,000 was allocated to all states for training public health personnel, and 4,300 public health workers were trained chiefly in eight regional medical centers under university auspices. The same year Congress appropriated $3,000,000 to assist states in the prevention, control and treatment of venereal disease. The financing of training courses for practicing physicians has resulted. Similar measures have been instituted for such diseases as cancer, tuberculosis, pneumonia and gonorrhea, and in each the training of physicians has been included.

The Children's Bureau of the United States Department of Labor has an annual appropriation of $3,800,000 for aiding the states in their maternal and child health programs. During the fiscal year ended June 30, 1938, postgraduate lecture courses in obstetrics for local practicing physicians were held in 316 centers in thirty-two states and were attended by more than 8,000 physicians. Postgraduate lecture courses in pediatrics were attended by more than 6,000 physicians in 243 centers in twenty-six states. The bureau also receives $2,850,000 annually for crippled children programs. Postgraduate courses for local physicians in the early recognition and treatment of crippling conditions were provided for in seven states. In at least twelve states federally financed courses have been attempted without conspicuous success.

While it is not possible to account for all federal funds expended for professional training, nor to measure the effects of such expenditures on improving the quality of medical care, it is possible to give the approximate amounts provided the various states for graduate medical education. These amounts range from at least $2,000 to $29,000 annually. For all states an aggregate of $300,000 would be a conservative estimate of federal expenditures for the training of physicians during one year.

The government has offered financial aid for graduate training touching every field of practice. In nine states graduate programs for practicing physicians have been administered almost entirely by the state agency; in eleven professional training is chiefly the concern of the state agency with little assistance from the medical association while sixteen extension courses in other states are jointly administered. Eight state medical associations have developed representative organizations for the effective administration of government aided courses with the approval of state agencies. These are: Iowa, Massachusetts, Michigan, New York, Oklahoma, Tennessee, Virginia and West Virginia. A significant difference in response has been noted in states where the state medical associations have actively administered graduate programs, in that programs are generally less costly, are better organized, are better attended and instructors, appreciative of the problems of medical practice, aid in making these courses more satisfactory to practicing physicians.

Comment: Should state medical associations be urged to administer extension courses for practicing physicians, cooperating where desirable with other interested agencies?—Bulletin from the A. M. A.

INFECTIOUS DISEASES IN LOUISIANA

Dr. J. A. O'Hara, epidemiologist for the State of Louisiana, has furnished us with the weekly morbidity reports for the state, which contain the following summarized information: For the week ending February 11, there was a sharp increase in the number of cases of measles reported, there being 177 this week. However, as usual, syphilis led all reported disease with a figure of 197. Other diseases reported in double figures included 53 cases of pneumonia, 25 of pulmonary tuberculosis, 23 each of hookworm and chickenpox, 20 of influenza, 19 of cancer, 18 of diphtheria, 12 of typhoid fever, 11 of whooping cough and 10 of gonorrhea. A case of poliomyelitis was reported from East Carroll Parish; cases of tularemia were reported from East Baton Rouge, Iberville and St. James. For the week ending February 18, measles led all other reported diseases, even syphilis, with 145 cases, followed by the latter disease with 112. Then came 58 cases of chickenpox, 53 of pneumonia, 24 of pulmonary tuberculosis, 18 of cancer, 16 of typhoid fever, 15 of diphtheria, 14 of gonorrhea and whooping cough, 12 of scarlet fever and 11 of influenza. A case of poliomyelitis was reported from Union Parish this week. The typhoid fever cases were scattered through the southern part of the state, for the most part, and no one parish reported more than three cases. For the week which came to a close February 25, the following important diseases numerically were listed: 173 cases of syphilis, 136 of measles, 56 of pulmonary tuberculosis, 44 of typhoid fever, 32 of pneumonia, 23 of chickenpox and diphtheria, 16 of scarlet fever, 13 of cancer, 12 of whooping cough and 11 of hookworm. Twenty-eight cases of typhoid fever were reported from Orleans Parish, but 24 of these were imported from parishes lying to the south of the city. For the week ending March 4, there were reported 247 cases of syphilis, 183 of measles, 54 of typhoid fever, 10 times the five year average, 30 of influenza, 27 of chickenpox, 26 of pneumonia, 24 of gonorrhea, 23 of pulmonary tuberculosis, and 10 of cancer. Thirty of the cases of typhoid fever originated in St. Charles Parish and 17 of those reported from Orleans Parish were imported again from the parishes lying immediately to the south and west of the city. A case of poliomyelitis was reported from St. Landry Parish. For the week ending March 11, the mild epidemic of measles continued with 201 cases listed, followed by 132 of syphilis, 95 of pneumonia, 82 of influenza, 56 of typhoid fever, 31 of hookworm, 29 of whooping cough, 25 of diphtheria, 21 of cancer and pulmonary tuberculosis, 14 of scarlet fever, 13 of gonorrhea and 10 of chickenpox. A case of typhus fever was reported in Calcasieu Parish; a case of smallpox from Orleans Parish. The typhoid fever epidemic still persisted, 10 cases being listed in Lafourche, 10 in St. Charles and, of the 25 listed from Orleans Parish, practically all of them were imported from the two neighboring parishes to the south of the city.

HEALTH OF NEW ORLEANS

The Department of Commerce, Bureau of the Census, reports that for the week ending February 18, there were 145 deaths in the City of New Orleans, 89 in the white and 56 in the negro. These figures were almost identical with those of the preceding week, two more deaths in the white race being the only difference. For the week ending February 25, 156 deaths occurred, 94 white and 62 amongst the negro race. There were 20 deaths in children under one year of age, 8 white and 12 negro, as contrasted with 7 white and 10 negro in the previous week. For the week which came to a close March 4, there was a sharp increase in the number of deaths in the City of New Orleans, 188 citizens expiring in this seven day interval. Of these, 116 were in the white and 72 in the negro population. The infant death rate was remarkably small, only six babies died. The deaths had to do with the adult population of the city very largely. For the week ending March 11, there was again a sharp increase in the number of deaths in New Orleans, 210 being reported of which 138 were white and 72 negro. Again this large increase in the number of deaths was due to adults as there were only 10 deaths in infants this week.

WOMAN'S AUXILIARY

Louisiana State Medical Society

President—Mrs. Frederick G. Ellis, Shreveport.

President-elect—Mrs. S. M. Blackshear, New Orleans.

First Vice-President—Mrs. C. A. Martin, Welsh.

Second Vice-President—Mrs. A. G. McHenry, Monroe.

Third Vice-President—Mrs. D. C. McBride, Alexandria.

Fourth Vice-President—Mrs. A. F. Hebert, New Orleans.

Treasurer—Mrs. O. C. Rigby, Shreveport.

Recording Secretary—Mrs. D. T. Milam, Monroe.

Parliamentarian—Mrs. A. A. Herold, Shreveport.

Corresponding Secretary—Mrs. C. B. Erickson, Shreveport.

Historian—Mrs. W. P. Gardiner, New Orleans.

Chairmen of Standing Committees

Archives—Mrs. Chaillé Jamison, New Orleans.

Doctors' Day—Mrs. H. Aubrey White, Alexandria.

Exhibits—Mrs. George D. Feldner, New Orleans.

Finance—Mrs. J. E. Heard, Shreveport.

Historian—Mrs. W. P. Gardiner, New Orleans.

Hygeia—Mrs. C. P. Gray, Monroe.

Indigent Physicians—Mrs. Isidore Cohn, New Orleans.

Legislation—Mrs. C. A. Lorio, Baton Rouge.

Organization—Mrs. Roy Carl Young, Covington.

Press and Publicity—Mrs. R. T. Lucas, Shreveport.

Printing and Supply—Mrs. R. L. Simmons, Shreveport.

Program—Mrs. Aynaud F. Hebert, New Orleans.

Public Relations — Mrs. Walter Moss, Lake Charles.

Revision of By-laws—Mrs. J. L. Scales, Shreveport.

Councilors

First District—Mrs. W. R. Buffington, New Orleans.

Second District—Mrs. R. B. Harrison, New Orleans.

Third District—Mrs. C. M. Horton, Franklin

Fourth District—Mrs. Charles Gowen, Shreveport.

Fifth District—Mrs. Armand McHenry, Monroe.

Sixth District—Mrs. A. W. Martin, Bogalusa.

Seventh District—Mrs. T. H. Watkins, Lake Charles.

Eighth District—Mrs. R. B. Wallace, Alexandria

THE ANNUAL CONVENTION
ALEXANDRIA, APRIL 24-26

HEADQUARTERS—BENTLEY HOTEL

General Chairman
Mrs. Paul King Rand

Registration Desk	Lobby, First Floor
Mrs. O. B. Owens	General Chairman
Mrs. W. J. Rein	Vice-Chairman

Chairmen of Sub-Committees

Mrs. O. B. Owens	Registration
Mrs. R. B. Wallace	Information
Mrs. H. A. White	Toastmistress
Mrs. P. F. Murphy	Publicity
Mrs. J. A. White, Sr.	Exhibits
Mrs. S. L. Calhoun	Transportation
Mrs. M. H. Foster	Luncheon
Mrs. D. C. McBride	Tea
Mrs. L. D. Gremillion	Dinner Dance
Mrs. J. H. Landrum	Flowers

Pages

Martha Capell
Claudia Murphy
Mary Littell
Mary McGill

PROGRAM

Monday, April 24, 1939

1:00 p.m. Registration........Hotel Bentley, First Floor

Garden Pilgrimage Sponsored by Alexandria Rotary Club

4:00 p.m. Coffee Party........Mrs. P. K. Rand, Hostess, Vance Ave., Alexandria

8:00 p.m. Opening Meeting, Louisiana State Medical Society........Venetian Room, Bentley Hotel

Tuesday, April 25, 1939

10:00 a.m. Pre-convention Executive Board Meeting........Bentley Room, Hotel Bentley

Invocation........Father Prevot

12:00 noon Barbecue........City Park

4-6 p.m. Informal Open Tea........Mrs. S. J. Phillips, Hostess, Louisiana State Hospital, Pineville.

6:30 p.m. Dinner Followed by Dance...Venetian Room, Hotel Bentley.

Wednesday, April 26, 1939

9:30 a.m. General Session of Auxiliary—

9:30 a.m. Bentley Room, Hotel Bentley. Mrs. Frederick G. Ellis, President, presiding.

Invocation......Rev. G. Kearnie Keegan
Welcome Address...Mrs. M. B. Pearce
Response to Address of Welcome—Mrs. Walter Moss
"In Memoriam"......Mrs. C. U. Johnson
Vocal Selection......Mrs. H. P. Forsyth
Benediction..............Rabbi Albert Baum

Reading of Minutes

Reports: State Officers
State Committees
Parish Auxiliaries
Special Committees

Report of Woman's Auxiliary to American Medical Association:
Meetings.......................Mrs. A. A. Herold
Social Events...........Mrs. J. Q. Graves
Report of Woman's Auxiliary to Southern Medical Association......Mrs. R. L. Simmons
Unfinished Business
Recommendations of Executive Board
New Business
Report of Nominating Committee
Election of Officers
Introduction of New Officers
Announcements by New President, Mrs. S. M. Blackshear
Adjournment

12:30 p.m. Luncheon.................Mirror Room, Hotel Bentley. Tickets $1.25

Toastmistress..Mrs. H. Aubrey White

2:00 p.m. Post-convention Executive Board Meeting.................Bentley Room, Hotel Bentley

Mrs. S. M. Blackshear, President, Woman's Auxiliary to the Louisiana State Medical Society, presiding.

OUACHITA PARISH

A luncheon was given Thursday at the Lotus club by members of the Ouachita Parish Medical Auxiliary. Several state officers from Shreveport were guests of honor on this occasion including Mrs. F. G. Ellis, president; Mrs. O. C. Rigby, treasurer; Mrs. Charles Gowen, councilor; Mrs. R. L. Simmons and Mrs. C. B. Erickson.

Mrs. A. D. Tisdale, president of the Fifth District Federated Clubs, made an address on the "Control of Cancer."

The luncheon table was beautifully decorated with japonicas, placed at intervals along the center. Hostesses were Mesdames C. P. Gray, B. McE. McKoin, P. L. Perot, J. P. Brown, D. I. Hirsch.

Mrs. R. W. O'Donnell,
Press and Publicity Chairman

RAPIDES PARISH

The Woman's Auxiliary to the Rapides Parish Medical Society held its monthly meeting at the Bentley Hotel, on Friday, March 10, 1939. The meeting was well attended by auxiliary members, doctors, and guests.

As guest speaker, Mrs. Nathan J. Bender of the Caddo Parish Auxiliary gave a most interesting and instructive talk on "Socialized Medicine." The auxiliary, in this program, fulfilled its reason to be, in receiving some most timely information on this vital subject. The audience came away more firmly than ever convinced to keep informed along these lines.

Mrs. Frederick G. Ellis, President of the Woman's Auxiliary to the Louisiana State Medical Society, also was a guest at this meeting and gave a most inspiring, informal talk on auxiliary work in general.

The auxiliary members are busy with plans for the convention, and are looking forward to a large attendance. Alexandria, being in the center of the state, is easy of access, and has excellent hotel accommodations. Plans are being made for a full program of entertainment. Let's make this a banner year in State Auxiliary attendance.

Mrs. P. F. Murphy,
Press and Publicity Chairman

ORGANIZATION

SECOND DISTRICT

Mrs. Carl Young, State Chairman of Organization of the Woman's Auxiliary to the Louisiana State Medical Society, organized the Second District Woman's Auxiliary February 11. The Second District Medical Society is Composed of the parishes of Jefferson, St. James, St. Charles and St. John.

The meeting was held at the home of Mrs. P. A. Donaldson in Reserve. Mrs. Donaldson was elected president; Mrs. W. F. Bolton, of Vacherie, vice-president; Mrs. J. E. Clayton, of Norco, secretary, and Mrs. J. J. Massony, of Westwego, treasurer.

Following the business meeting, delicious refreshments were served.

TANGIPAHOA PARISH

On February 1, Mrs. R. Carl Young organized the Woman's Auxiliary to the Tangipahoa Parish Medical Society at Hammond. Officers of the new organization: Mrs. M. C. Wiginton, of Hammond, president; Mrs. L. L. Ricks, of Independence, vice-president; and Mrs. E. J. Kevlin, of Ponchatoula, secretary-treasurer.

Accompanying Mrs. Young were Mrs. A. W. Martin, of Bogalusa, Councilor of the Sixth District, and Mrs. Stanley Desporte, also of Bogalusa.

Respectfully submitted,
Mrs. R. T. Lucas,
Press and Publicity Chairman

BOOK REVIEWS

ABC of the Vitamins: By Jennie Gregory, M. S. Baltimore, Williams and Wilkins Co., 1938. Pp. 93.

Miss Gregory presents the essential facts about vitamins in this 93-page volume. She uses graphs, tables, charts, and pictures to illustrate the history, chemistry, occurrence and physiologic action of the vitamins, geographic distribution of avitaminoses, the chemical manifestations of vitamin deficiency diseases, and human vitamin requirements. When the author prepared this book she had in mind supplying an outline of essential information for both laymen and scientific students.

There is a tendency toward oversimplification, but despite this the material is fairly accurate. No mention is made of the recent clinical results with nicotinic acid and vitamin K, and several other recent advances are not described. Some of the shortcomings of the book lie in the very nature of its subject: Advances in the field of vitamins are being made so rapidly that any treatise on vitamins is out of date even before it is printed.

F. W. Bernhart, Ph. D.

Modern Surgical Technic: By Max Thorek, M. D., K. L. H. (France) K. C. (Italy). Philadelphia, J. B. Lippincott Co., 1938. 3v. pl. illus. Price, $33.00.

These three volumes contain descriptions of a selected collection of operative procedures which the author considers are most useful and which he believes are superior to other methods. The work embraces all fields of surgery including: neurosurgery; orthopedic surgery; gynecologic surgery; and eye, ear, nose, and throat surgery. There are descriptions of the operations which are employed in the newer fields of surgery, such as, thoracic surgery, surgery of the sympathetic nervous system, and surgery of the heart. In some instances, the illustrations and comments concerning indications for operation are taken from the original publications. Notations are made concerning technical difficulties which may be encountered in the performance of these operations. The author has necessarily omitted many operations which other surgeons prefer and he has included some procedures which are obsolete. To increase the usefulness of the book for reference purposes there is an author index as well as a general subject index.

Ambrose Storck, M. D.

You can Sleep Well: The A B C's of Restful Sleep for the Average Person: By Edmund Jacobson, M. D. New York, Whittlesey House, 1938. Pp. 269. Price, $2.00.

This attractively published book, of some two hundred and sixty-nine pages and nineteen chapters, furnishes easy, instructive and entertaining reading, and the narrative is alluring because the nature of sleep remains unknown after countless years of observation, speculation, investigation and research. However, today, some evidence suggests that there may be a sleep center hidden somewhere in the central nervous system.

Dr. Edmund Jacobson, the author of "You Can Sleep Well" is the Director of a Chicago laboratory for clinical psychology and has spent some thirty years on the sleep problem. He believes there is close relationship between muscle tension and insomnia. Several years ago he wrote "You Must Relax" which attracted much attention and he has constructed an electrical device sufficiently sensitive to record the faintest residual tension in apparently completely relaxed muscles. Dr. Jacobson thinks this residual tension is an important cause of insomnia and, in his book, he describes how one can eliminate it by mastering the art of relaxation which is "a method of education having to do with self control." He does not state, as many scientists believe, that sleeplessness is a symptom of an impairment, rather than a distinct pathologic condition. Dr. Jacobson is not a visionary, nor is he prodigal in his assertions, and he warns that the prolonged application of correctly applied effort is essential for relief of insomnia.

After reading the last chapter "What Is Sleep?", the reviewer failed to find an answer to the question. He closed the book with the conviction that the mystery of the nature of sleep remains unsolved and that, after all, one is apt to sleep well when he has completed a moderately active and successful day without indulging in any excesses and when he does not, as he retires, wonder if he will sleep.

C. P. May, M. D.

Veterinary Helminthology and Entomology: By H. O. Mönnig. Second Edition, Baltimore. William Wood and Company. Price, 30s. Pp. 409.

Mönnig's revised (second) edition presents the subject of parasitology for veterinarians in 409 pages, with numerous illustrated photographs and clear line drawings.

A short introduction giving basic definitions and theories and a very brief historical sketch are followed by a section on technics of examination, in which the more valuable and practical methods have been selected. The members of the Phyla Platyhelminthes, Nemathelminthes and Annelida, parasitic in domesticated and fur-bearing animals, are considered with special reference to structure, life cycle, host-tissue reaction, diagnosis, treatment and prevention. After a general discussion of the morphology and veterinary importance of arthropods, the members of this group are individually presented as parasites and transmitters of disease. A valuable host parasite list follows.

While figure 88 (p. 148) shows correctly that Trichinella is viviparous, on p. 149 it is stated that eggs are laid. Yet differential diagnosis of trichinosis in intestine sections uses the very absence of eggs to clinch the diagnosis.

The book is primarily intended as a textbook for veterinarians. Its usefulness for those interested in human parasitology and comparative pathology would have been broadened if more space had been dedicated to the tissue reactions caused by the parasites and to their epidemiology.

WILLI SAWITZ, M. D.

Introduction to Ophthalmology: By Peter C. Kronfeld, M. D. Springfield, Ill., Charles C. Thomas, 1938. Pp. 331. Price, $3.50.

This interesting, well written, and informative volume of some three hundred pages is more than its title implies. Although primarily intended for those who contemplate ophthalmology as a life work, the author presents some of its most recent and complex concepts in a simple, readable way.

Dr. Kronfeld was Professor of Ophthalmology in the Peiping Union Medical College until the Sino-Japanese erased it from the map. He is the cream of the crop among pre-Nazi Viennese ophthalmologists, and is exceptionally well informed.

A cross-section of its contents can best be presented to the prospective reader by a few direct and indirect quotations.

If the sclera loses 30 per cent or takes up 20 per cent of water, it becomes transparent. The cornea consumes in 24 hours its dry weight of oxygen, which is approximately one-third of that consumed by the brain. The lens contains the highest protein content in the body. Its transparency is maintained partly by two auto-oxidative systems, one represented by glutathione, and the other by ascorbic acid. Fisher believes that 1.7 liters of blood run through the uveal tract of a rabbit daily. There is no evidence of vasodilating nerve fibers in the eye. The appearance of cotton-wool spots or hemorrhages is the warning of approaching more or less permanent arteriolar organic disease in pregnancy and suggests its termination. The term, "albuminuric retinitis," is largely a misnomer. Of little diagnostic importance, diabetic retinitis worries the ophthalmologist more than the internist because of its failure to change with treatment. Hypotony is a valuable sign in late diabetes because absent in apoplexy and uremia. In uveal sarcoma, the mixed cell type is the most malignant and the spindle cell, least. Traquair's concept is that sight is an island of sight surrounded by an ocean of blindness. Discrepancies between field defects and disc pallor are often not proportionate. Because the fixation point is more usually involved, homonymous hemianopics are more likely to run into objects on the blind side than heteronymous hemianopics. The pupillary centers and pathways are poorly insulated as there is hardly a nervous process that does not affect pupillary mobility. The impulses for willed, or voluntary ocular movements seem to originate more in the frontal centers, while those responding to reflex stimuli, more in the occipital centers.

Thanks should be given to Dr. Kronfeld for a book that is different, that is informative, and that is exceptionally readable.

CHARLES A. BAHN, M. D.

Midwifery: By ten teachers, under the direction of Clifford White; edited by Sir Comyns Berkeley, Clifford White and Frank Cook. Baltimore, William Wood & Co., 1938. Pp. 676, illus. Price, $6.00.

This edition, the sixth of its kind, is prepared by the leading authorities on obstetrics and gynecology of the British Isles for the purpose of reviewing obstetrics in a clear and concise manner for students and practitioners. The book accomplishes this purpose in as good a manner as such a comprehensive subject can be handled in a limited space.

The latest accepted beliefs regarding pregnancy and its management as well as the complications, operative procedures, laboratory aids and end results are developed without too extensive discussion of the various theories involved. Treatment has been given a short but practical allotment in space.

In the final analysis the volume is an adequate and satisfactory review text of obstetrics.

JOHN C. WEED, M. D.

Scarlet Fever: By George F. Dick, M. D., D. Sc., and Gladys Henry Dick, M. D., D. Sc. Chicago, The Year Book Publishers, Inc., 1938. Pp. 149. Price $2.00.

This monograph, by the two people who are better qualified to write on this subject than any one else in the world, is an excellent summary of the information that is now known about scarlet fever. Naturally, as would be expected, there is a considerable amount of space devoted to the treatment of scarlet fever, preparation of toxin and the skin test for susceptibility. As a matter of fact, from page 53 on to the end of the book, the contents have largely to do with the experimental work the Dicks have done in scarlet fever and particularly the work with hemolytic streptococcus. This exposition is not devoted solely to their own work but contains also an excellent selection from the literature.

The book is very well gotten up, the cover is handsome and tasteful. The format is excellent; the type is of a large font and very clear, and the colored illustrations are most graphic. At the end of the subject matter is a list of some 188 references to matters discussed in the text. To those who are interested in obtaining the latest information about scarlet fever or those who are interested in immunology, the book can be heartily recommended.

J. H. Musser, M. D.

Hand Book on Social Hygiene: By W. Bayard Long, M. D., and Jacob A. Goldberg, M. A., Ph. D., F. A. P. H. A. Philadelphia, Lea & Febiger, 1938. Pp. 442. Price $4.00.

Though not implied by the title, this book might well have been termed the management of syphilis and gonorrhea. History, pathology, diagnosis, treatment and even legal aspects are considered. Elementary in part, yet technical enough to include laboratory procedures, it may serve the purpose of its authors as a source book on the various aspects of social hygiene. As such it is to be recommended particularly to nurses, public health and social workers or as a reference in preparing papers on any of the medical phases of social hygiene.

Eugene H. Countiss, M. D.

Textbook of Experimental Surgery: J. Markowitz, M. D. Baltimore, William Wood and Company, 1937. Pp. 527. Price $7.00.

No one will dispute the valuable influence of laboratory experimentation in surgery during the past thirty years. Nothing is more important to graduate training in surgery than experimental surgery. The laboratory has established itself as a necessary adjunct to further developments in this field.

This book presents in detail the technical procedures necessary to perform certain types of operations used in experimental research. It is of value to all men interested in experimental surgery, and should be of interest to those students who contemplate postgraduate study in surgery as well as undergraduate students who wish to become familiar with technic as applied to experimental surgery. The operative technic described is suitable for the dog which is most often used.

The different chapters, including equipment, technic, sutures and instruments are well illustrated by drawings.

This book should convey to the reader the great value of experiments on dogs in the solution of practical surgical problems.

Warren Hébert, M. D.

PUBLICATIONS RECEIVED

D. Appleton-Century Company, New York City: Landmarks in Medicine: Laity Lectures of the New York Academy of Medicine, with an introduction by James Alexander Miller, M. D., President, New York Academy of Medicine.

P. Blakiston's Son and Co., Inc., Philadelphia: Refraction of the Human Eye and Methods of Estimating the Refraction by James Thorington, A. M., M. D. Gould's Pocket Pronouncing Medical Dictionary, eleventh edition, revised by C. V. Brownlow.

Harvard University Press, Cambridge, Mass.: Health at Fifty, edited by Dr. William H. Robey.

Harvest House, New York City: The Complete Guide to Bust Culture by A. F. Niemoeller, A. B., M. A., B. S.

Paul B. Hoeber, Inc., New York City: Roentgen Diagnosis of the Spine and Extremities by Albert B. Ferguson, M. D.

The Johns Hopkins Press, Baltimore: Bacteria: The Smallest of Living Organisms by Dr. Ferdinand Cohn (1872), translated by Charles S. Dolley (1881).

Lea & Febiger, Philadelphia: Principles of Hematology by Russell L. Haden, M. A., M. D. A Manual of Fractures and Dislocations by Barbara Bartlett Stimson, M. D., Med. Sc. D., F. A. C. S. Elementary Anatomy and Physiology by James Whillis, M. D., M. S., F. R. C. S.

J. B. Lippincott Company, Philadelphia: The New International Clinics, Vol. 1, New Series Two, 1939, edited by George Morris Piersol, M. D., Surgical Pathology of the Diseases of the Mouth and Jaws by Arthur E. Hertzler, M. D.

The C. V. Mosby Company, St. Louis: Surgical Treatment of Hand and Forearm Infections by A. C. J. Brickel, A. B., M. D.

G. P. Putnam's Sons, New York City: Whence? Whither? Why? by Augusta Gaskell.

W. B. Saunders Company, Philadelphia: Surgical Anatomy by C. Latimer Callander, A. B., M. D., F. A. C. S. Anemia in Practice by William P. Murphy, A. B., M. D.

Charles C. Thomas, Springfield, Illinois, and Baltimore: The Patient Is the Unit of Practice by Duane W. Propst, M. D.

U. S. Government Printing Office, Washington, D. C.: Annual Report of the Surgeon General of the Public Health Service of the United States for the Fiscal Year 1938.

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New Orleans Medical
and
Surgical Journal

Vol. 91 MAY, 1939 No. 11

THE REPORT OF THE PRESIDENT*

J. A. O'HARA, M. D.
New Orleans

It is a signal distinction in the professional life of any doctor to have served as president of his State Medical Society. I am grateful for the honor and implied confidence in me and, particularly, do I appreciate the opportunity afforded for closer contact with our membership with the resulting clearer understanding of their needs, problems and aims.

Never had I so thoroughly realized the close fraternal relationship existing among our physicians as I did during the past year. At the same time, too, I was impressed with the fact that this very fraternal spirit should engender among us always an even broader comprehension of the other's problems and burdens with a kindlier measure of toleration.

It is my conviction that the surest way to promote such a relationship and so enjoy the highest type of benefits from professional and social companionship is through our medical organizations. The personal contact at the meetings, serving together on committees, hearing and participating in papers and discussions presented by colleagues as well as taking part in the varied activities, all promote a keener interest in, and a truer knowledge of, one another in accordance with the ethics and high morale of the profession. Membership brings a feeling of security and protection; we need our professional organizations such as the American Medical Association, State Medical Society and District and Parish groups to police the profession against quackery and venality.

From time immemorial, the doctor has undergone definite educational discipline which has qualified him for this brotherhood, and for the continued study, growth and service imposed upon him by his pledge even after he leaves medical school. At all times there has existed a medical code and whether this code originated in classic Greece, medieval China or modern America, the import has been much the same in the ethical principles set forth.

Medicine throughout the ages has been on the alert for scientific discoveries which could be utilized for the protection and promotion of the public health. The step between the acceptance of a scientific discovery and its utilization for the general good of all mankind is but a short interval. Our present day knowledge and present day progress would be much more restricted were this not so.

Science has done much, but the manner in which the service is rendered plays a part equally important as the remedial agent itself. The greatest medical teachers of all countries, of all times, have instilled into the hearts and minds of their students that the truly successful doctor is the one whose objective is to maintain the true relationship between the one endeavoring to heal and the one to be healed and whose goal is to be a factor in the community as well as among the individuals served. Upon the widespread education of the people, to a large extent, depends the future of medicine. It is incumbent upon us, then, to conduct our professional lives, as our personal affairs, so as to render our unconscious influences a potent force that we may be worthy of our heritage.

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*Presidential address read before the sixtieth annual meeting of the Louisiana State Medical Society, April 25, 1939.

When I became your President, I had thought, planned and dreamed of what I might do to have it said of me "Well done, thou good and faithful servant." As I stood on the platform last April, stimulated and determined as I was to meet the responsibility of service imposed on every President, three hundred and sixty-five days—a year—seemed long as I looked forward to accomplishing the things we planned. But as I look backward today, that same year has been so very, very short to crowd in even a few of the goals I had visioned.

In keeping with the custom, I now submit a report of my stewardship and while I wish there were more to record, it has been only with your help and your encouragement that we have traveled that far.

When I came into office, I pledged that one of my first efforts would be to have every eligible doctor in Louisiana a member of the State Medical Society. To that end, shortly after the annual meeting, a letter was mailed to every eligible nonmember in the State emphasizing the benefits from membership and this was followed by personal contacts. After a short period, follow-up letters were sent to those who had not responded to the first appeal and, again, personal contacts were made. In New Orleans, all prospective members were invited to a dinner when membership was discussed. As a result of this campaign, 115 new members have been enrolled during the past year. This is gratifying and I trust that those who have escaped our net will be brought in during the coming months. The actual increase in membership and the greater interest awakened, I am convinced, more than justified the financial cost involved.

On October 11, 1938, the officers, members of the Executive Committee and several others, met with representatives of the Farm Security Administration in the office of the State Medical Society, New Orleans. The "Medical Care Program for the Farm Security Administration Families" and the "Memorandum of Understanding between the Physicians of . . . Parish and the Farm Security Administration" presented by Dr. R. C. Williams, Medical Director, were discussed in detail and every phase of the plan considered. As a result of the conference, the basic principles involved being satisfactory, Dr. Williams as Medical Director of the Farm Security Administration (or his representatives) was "authorized to approach the parish medical societies in the furtherance of the proposed medical care plans for Farm Security Administration families in Louisiana." It was further stipulated, however, that each society accepting the proposition, refer the plans to the Executive Committee or to the President of the State Medical Society for approval, before final adoption.

It was my desire and purpose to visit every district society, but conditions over which I had no control precluded this pleasure, which I keenly regret. On several occasions, my plans had to be changed at the last minute. I was privileged, however, to meet with the Fifth District Society at Monroe, when, in addition to a splendid program, many pertinent questions of local interest were discussed. It was my pleasure, too, to attend a meeting at Covington and participate in the program. I am very grateful to the officers and members of both of these groups for the many courtesies extended to me.

During the session of the 1938 Legislature, I appeared before the various committees considering proposed bills affecting doctors. In each case, we were successful in having undesired legislation die in committee and only desired laws go through.

Because of the vital importance to the medical profession in general, the State Medical Society was fortunate in having several representatives present at the Special Meeting of the House of Delegates of the American Medical Association, held in Chicago, last October. I shall not comment on the happenings, however, as the Journal carried full accounts, as you know, and I trust they were carefully read. In this connection, I should like to add that information gathered while on a recent visit to Washington, showed that the Federal Government, through the U. S. Public Health Service, is bending all of its efforts in trying to assist the medical profession (in all of its ramifications) to hold the practice of medicine in the high brackets, in order to help to maintain the dignity and financial status of the doctors and, at the same time, to assist them in giving to their patients the highest type of service that science and money can provide, which is so badly needed by those who are sick and in distress.

Favorable comments have been forthcoming concerning the six refresher courses in pediatrics which have been given since our last meeting. These courses were practical and comprehensive and the splendid cooperation accorded by the local profession, committees and Councilors in this program is sincerely appreciated. In this connection, I look forward to the time when it may be possible to offer refresher courses in certain specialties such as pediatrics, obstetrics, the venereal diseases, and so on, in the medical centers, particularly for the doctors in the rural and outlying sections of the state.

Recognizing and appreciating the distinct value of the New Orleans Graduate Medical Assembly, all possible cooperation was extended to perpetuate this endeavor. I am very happy to say that the Third Assembly more than justified its place in the medical and scientific field.

In referring to the events of the past twelve months, none stands out more significantly, nor with more personal gratification, than the harmonious spirit which has existed within our ranks and my cordial official relationship with officers, committees and the membership at large. Dr. P. T. Talbot, Secretary-Treasurer, and his two excellent assistants, Miss Annie Mae Shoemaker and Miss Odile Simpson, stand in a class by themselves. They have been a tower of strength, anticipating by every wish and in every way justifying the confidence and appreciation of the Society.

RECOMMENDATIONS

In the interest of further progress, I recommend that:

1. Members take full advantage of the official Journal which is not only the medium of disseminating medical and scientific knowledge and information pertaining to the activities of the State Medical Society but also discusses problems which affect the entire membership. The Journal brings to the door of every individual doctor, matters about which he might not otherwise know and about which he cannot afford to remain uninformed. The addition of a staff of corresponding editors in the various parishes has proved very effective.

2. Each councilor continue his activities as a committee of one to make a survey of the physician-power of his respective district and try to organize or reorganize medical societies therein.

3. Refresher courses in pediatrics, or other subjects, be continued and extended where practicable.

4. All encouragement should be given the Woman's Auxiliary and that this organization be drafted into service when needed.

The Louisiana State Medical Society is keenly alive to the essentials upon which are predicated an abounding future for medicine. Alert initiative, considerate thought and vitalized action with the one hundred per cent cooperation of every individual member, will insure for our Society an enviable place among the medical organizations of the country. Too, the Society will become more of a force united for the general good by improving the future of medicine for the profession and for the public. The progress and very life of this Society ultimately comes to depend on those who put their shoulders to the wheel to maintain that solidarity of interests which is so necessary for the conservation of the ideals of our profession.

With a clear eye, an open mind and vision to plan, may we pledge our wholehearted assistance in the preservation of those principles and goals for which our predecessors have fought so tenaciously to establish.

THE DOCTOR IN COURT*

ISIDORE COHN, M. D.
NEW ORLEANS

A doctor is called upon from time to time to testify in court. The evidence which he gives may fall under one of the two classifications of medical testimony: It may be factual or it may be expert. Factual testimony has to do with the relation of the doctor to his patient's condition. It is based entirely upon facts and is completely independent of opinion. Once a doctor ventures an opinion on any medical data presented to him, his testimony falls under the second classification of medical testimony, that is, it becomes expert testimony. A doctor is required by law to give factual testimony when called upon to do so; but he appears in a case as an expert witness by choice. Perhaps the difference between expert and factual testimony can best be illustrated by the following experience which I had in court:

I was subpoenaed in reference to an injury sustained by a patient who had been treated in the Surgical Clinic at Touro. I brought to court with me the clinic records of the case. After I had been sworn in, the attorney questioned me as follows:

Q. Doctor, can you identify the plaintiff as Mr. X?

A. I am only able to say that he is the man whose name appears on the card which I have in my hand.

(I could not swear that he was the individual named, as the only evidence I had that that was his name was the fact that he had given that name to someone at the Touro clinic and it was recorded there at the time of his visit.) It is always important that we do not make statements which someone else might easily contradict. Certainly if another witness had stated that this man's name was not the same as that on the card, I could not have proved on the witness stand that his name was the same as that given.

I was next asked if the x-ray picture which was presented to me was that of the plaintiff. I replied that I could only state that the x-ray picture had the number which corresponded to the number on the card in my hand. I could not swear that that was the picture of the individual in question as I had not taken it, nor had I seen the picture taken.

The picture was that of fractured ribs. The attorney then asked me if the x-ray picture was that of a fracture of the eighth rib. I replied that I was unable to answer that question. The attorney wished to know why. I stated that since the picture did not show the first and the twelfth ribs, I was unable to say whether the rib shown was the eighth.

At this point the attorney wanted to know if the patient could continue to have pain for so long a time after the accident. I replied that the answer to such a question would constitute expert testimony. At this juncture, the attorney resorted to the judge and said: "I cannot understand the difference which the doctor makes between ordinary testimony and expert testimony." Of course, the judge permitted me to explain to the attorney that expert testimony involved the expression of an opinion, while ordinary testimony was based on facts alone. I added that since I had been called into court in this particular case in the capacity of a factual witness, and not as an expert, I was obligated to testify on facts only and was not required to answer any question involving an opinion.

Since all court witnesses are sworn before testifying, the testimony given must be absolutely accurate. For this reason memory is undependable. If the testimony is to be of value, it must be based on recorded facts; and by that I mean facts recorded at the very time the incident under question occurred, and not later.

In order to do justice to himself and to protect himself fully, a doctor should see that his records are as minute as possible. Omissions open the way to future disparagement of testimony. Well kept records, on the other hand, prevent the sustaining of many unfair claims. As an illustration of this, I might cite the following case:

I was subpoenaed as a witness in the case of a colored maid whose claim for damages was based on interference with the function of one of her knees, following a supposed injury while in the employ of someone as a maid. Before court convened, I asked who had subpoenaed me and was told by the maid's attorney that he had. He asked me if I recognized this patient. I answered that I did not know her name but did recognize the woman as one on whom I had operated at the Touro Surgical Clinic for housemaid's knee. The attorney then told me that ever since the injury and the subsequent operation, the maid had had difficulty in using her knee. I at once pointed out to the attorney that if the colored maid would show her other knee, he would see that it was in the same condition as her bad knee was previous to the operation; that is, it also was afflicted with housemaid's knee or prepatella bursitis. At this point the attorney said: "Doctor, we will not need your testimony in this case." In other words, this particular individual, knowing that the maid's suit was based on claims which could not be sustained by fact, did not want me to testify.

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*Read before Orleans Parish Medical Society, November 28, 1938.

Had I gone on the witness stand, I would have undoubtedly proved that the housemaid's knee was not caused by the injury the maid had received, with the result that their case would have been thrown out of court. The completeness of the records made it possible for me to make the statement I did about the maid's other knee.

THE DOCTOR AS AN EXPERT WITNESS

The position of the expert witness is entirely different from that of the factual one. It devolves upon the expert to help formulate the opinions of judges and jurors on technical medical questions. It is his duty to read into the records of the case a summary of the latest human knowledge on the medical subject at issue. His testimony should be unbiased, and only those doctors qualified by experience and by a knowledge of the medical literature on the subject should testify as experts. So vast is the range of subjects which require medical testimony, that no man should consider himself qualified to give an opinion in more than a very limited field of medicine.

Unfortunately, medical testimony has not in the past carried as much weight in court as we should like, for the reason that doctors who are unprepared to do so often appear in the capacity of experts—to the detriment of both justice and the medical profession; and for the reason also that doctors have often given testimony which was colored by their sympathy for the side which they represented at the trial. It would be ideal if medical experts could be chosen by the court as jurors are, that is, if they could be disinterested parties, testifying for the court and not for either side; if they were men chosen because of their general reputation for ability in the subject, and not because they held opinions which were favorable to one side or the other.

Opinions on medical questions change from day to day as new light is thrown on the questions by additional scientific investigation. For this reason medical opinions cannot be established by precedent, as many questions of law are. Time alters opinions on scientific questions, whereas opinions on moral conduct remain largely unchanged. Expert medical testimony of yesterday is often not applicable today.

In an editorial on the death of Justice Cordoza, the "New Orleans Item" stated: "To him legal principle was something to apply to the change of status of social and economic life, for the perpetuation of justice."

This is the principle that should be applied to expert testimony.

As an example of the present tendency of parties to a suit to choose only medical experts who are favorable to their cause, I might recount an experience which I had recently: Within the past year a suit for damages was filed against a hotel company in another state by a plaintiff suffering from cancer. This man claimed that his cancer had developed following a single trauma which was caused by the negligence of the defendant hotel company. He alleged that he was injured by a piece of glass which fell from a transom and struck him on the head, cutting his head; and that an epithelioma which had developed about eighteen months after the accident was due to that single injury.

The attorney for the defendant approached me before the trial and said: "What we want to know is: Could this cut alone have caused an epithelioma to develop?" Immediately my reply was: "Does anybody know the cause of epithelioma? Does anybody know whether this man had anything there or not at the time of the accident?" I then asked the attorney just what they wanted of me, and he replied: "We want to use you as a witness." Whereupon I said to him: "The whole story lies in the answer to one question; and that question is: 'Doctor, do you think that a single trauma causes epithelioma?' "

After discussing the details of the case with him, I made it clear to him that the only basis on which I would consent to testify would be if I were given an opportunity to study the plaintiff's statements and also the medical literature on the question involved. Further, that I would insist on giving absolutely unbiased testimony. I explained to him that I knew he was eager to have me testify in his favor, and that this was perfectly legitimate from his point of view since he wished to win his case; but that if I went on the witness stand, I would do so as a disinterested party, expressing my honest, unbiased, uncolored opinion—whether it was detrimental to him or not; and that I would not appear as an expert for or against either side in the case. He replied hurriedly: "That is exactly what we want." . . . But let me add, he did not call me.

The example just given brings up an interesting point for discussion: Did the cancer in question really result from a single trauma? What would be your reply?

I considered this question to be of such importance to the medical profession from a medico-legal standpoint that I felt the urge to investigate the recent literature on the subject, even though I was not called upon to testify in the case just cited. I did so; and I now propose to digress a moment from the subject of my paper in order to give you a brief report on the results of my investigation, so that others might not have to do as much research as I have done to obtain authoritative opinions on this matter.

Within recent years a great deal has been written on this point by pathologists—experimentalists and geneticists, as well as surgeons. Among the most notable expressions on the subject are those of Maud Slye and James Ewing, and a particularly excellent review of the field has been made by Leila Charlton Knox.

For the purpose of this paper, brief abstracts from papers written by each one of these will be included. Maud Slye[1] says: "The conclusion seems unavoidable that in the cases herein described (experimental animals) hereditary predispositions and external gross traumas were the interrelated causes of the occurrence of cancers. . ."

It is James Ewing's[2] opinion that: "The secret of malignancy seems still to remain enshrouded in the obscurities of intracellular life, where it will probably long remain."

Ewing[3] goes on to say: "Many recent fundamental contributions on the causation of tumors have an important bearing on the relation of trauma to cancer. When nothing definite was known about the effective exciting factors in mammary cancer it was permissible to adopt the traumatic theory in cases in which the clinical evidence pointed strongly that way. Now that it is known that one can produce mammary cancers in mice almost at will by over-stimulation with theelin, whereas no one has succeeded in producing this disease by trauma, the traumatic origin becomes much less acceptable.

"Cancer has now been produced experimentally by many agents, but always under specific conditions that are not related to trauma, and the experimental data reveal the fact that the genesis of cancer requires quite peculiar factors which have not been found in the results of simple trauma. . . .

"At one time it seemed necessary to assume that many cases of giant cell tumor of bone resulted from injury, but since it has appeared that this disease is related to a functional disturbance of the parathyroid gland, and that giant cell tumors may be produced by hyperparathyroidism and cured by extirpation of tumors of the parathyroid glands, it becomes unnecessary to introduce the idea of trauma into the etiology of giant cell tumors.

"The application of di-benzanthracene to experimental animals produces cancer and sarcoma promptly and almost invariably, whereas the innumerable efforts to cause tumor by simple trauma have always failed. This contrast cannot fail to impress thoughtful observers with the fact that when one deals with real cancerigenic agents the results are definite, positive and even startling, and that the negative results of traumatization indicate that a trauma does not possess the essential elements of a cancerigenic agent.

"While it is now generally agreed that a single trauma never produces a malignant tumor in previously normal tissue, this principle may not greatly reduce the medicolegal importance of an injury as an indirect cause of a tumor. When a lacerated wound of the skin with implantation of foreign material fails to heal, becomes infected and suppurates for weeks or months, and cancer finally appears in the edges, it is clear that the cancer would not have occurred without the trauma. . . ."

Ewing says that several definite criteria have been widely recognized as essential for the acceptance of traumatic origin of a tumor:

"ESSENTIAL CRITERIA"

"1. *Authenticity and Adequacy of the Trauma*: That an injury occurred is generally accepted by the courts on the statement of the patient, but for strictly scientific purposes such evidence must be regarded as inadequate for the reasons previously explained." (Every student of psychology knows that the human mind is strongly influenced by preconceived notions and by self-interests. Statements with reference to the injury can at times be discounted because of the prejudiced interests of the patients themselves.) "The statement of the patient must be corroborated by eye witnesses or, better, by circumstantial evidence, such as the immediate discovery of signs of injury by an intelligent layman or physician. . . .

"The trauma must be adequate to produce some alteration in the structure of the tissue, and the least effect it can give is the rupture of small blood vessels, with hemorrhage and discoloration of the skin. It should also be capable of exciting some regenerative process; otherwise it is difficult to conceive how it can excite excessive and abnormal proliferation of cells. . . .

"Clean surgical incisions never lead to cancer. The retention of a blood clot or of fragments of necrosing tissue provides conditions in which abnormal reactions conceivably may occur. . . .

"2. *Previous Integrity of the Wounded Parts*: While courts and juries may accept the patient's statement that the injured tissue was previously entirely normal, the positive demonstration that a tumor is of traumatic origin requires proof rather than assumption. . . . Usually the only proof of the previous integrity of the site is the evidence of a competent medical examination. Adherence to this criterion would exclude many of the cases of supposedly traumatic cancer. . . . So strong is the evidence against the purely traumatic origin of most cancers that one must assume the attitude that a malignant growth claimed to be traumatic arises not in normal but in previously altered tissues."

Ewing continues: "Traumas reveal more malignant tumors than they cause. Whenever an apparently trivial injury is said to have produced some peculiar and exaggerated effect, and a tumor is later discovered, it should raise the suspicion that the tumor antedated the injury.

"3. *Origin of Tumor at Exact Point of Injury*: Any reasonable theory of the traumatic origin of a tumor must assume that the tumor develops in tissues altered in structure by the trauma and not by some mild transmitted force leading to intangible nutritional disturbances of which one knows nothing. Such alteration in structure can be produced only at the exact point of injury or within narrow limits. A blow on the knee cannot be assumed to be connected with a tumor arising in the hip, and an injury of the nipple cannot be responsible for a cancer arising in the upper outer quadrant of the breast.

"4. *Reasonable Time Limit Between Injury and Appearance of Tumors*: . . . the longer the interval the less certainly may the tumor be referred to the trauma."

Ewing further states with reference to trauma as a precipitating factor in causation of cancer: "The great rarity of authentic cases of traumatic cancer, the uniform failure to produce a disease experimentally by simple trauma and the highly specific nature of known cancerigenic agents, have led pathologists to conclude that a single trauma is itself incapable of producing a malignant tumor, and that it must always act in combination with equally or more important factors."

Of cancer of the skin, Ewing writes: "Cancer has often followed wounds of the skin, but with rare exceptions the connection between the trauma and the cancer is indirect. The wounds that are followed by cancer of the skin are nearly always complicated; the long interval of several years permits other factors to enter, so that it is difficult to determine whether the cancer is chiefly referable to the injury or mainly and essentially to the subsequent and complicating events."

In summarizing his paper Ewing says: "Present data confirm the view long since adopted by pathologists that a single trauma of normal tissues is incapable of producing a malignant tumor. This principle may not greatly alter the possible importance of the single trauma as an indirect but essential and determining cause of certain tumors. . . .

"The chief task in determining the relation of a trauma to any given tumor is that of laborious fact-finding. The great majority of reports of tumors alleged to be traumatic would never have appeared in the literature if the facts had been competently gathered and evaluated. The laws of psychology demand that the statements of patients and eye witnesses should be corroborated, the actual and probable immediate effects of the injury attested by competent persons, preferably physicians, and the entire case studied from a broad clinical and pathologic point of view. . . .

"The interpretation of compensation laws should recognize that a trauma is never the sole cause of a cancer and is often only a subordinate, although determining, cause, that the probability of coincidence is great, that aggravation by injury is rare and difficult to establish, and that many difficulties and uncertainties will surround this subject for a long time to come. . ."

Leila Charlton Knox[4] says: "Speaking generally, the opinion of almost all pathologists and experimental students of cancer is that a single trauma cannot cause a malignant neoplasm. . . ."

Commenting on giving testimony in this type of case, Knox says: ". . . It may be said that the general trend of medical thought has probably been influenced in the last five years, perhaps unconsciously, by the legal and compensation verdicts which have been returned. On the other hand, medicine has contributed a considerable number of useful observations, but has offered no definitive answer to the question of the relationship of trauma and tumor. Probably the most valuable work which can be done in this field is to educate the medical profession toward more complete factual case histories in which personal opinions of an inexpert type either as regards the interpretation of clinical observations, radiographs, or pathological slides should take second place, and in each of these fields consultations from a number of experienced persons should be applied to an understanding of the individual problem. . . . the writer believes that no valid evidence has been offered since 1929 to change the opinion expressed in a more extensive survey of this subject published at that time that as yet no causal relationship has been established between a single trauma to healthy tissues and the appearance of a malignant neoplasm."

From the foregoing it would seem that the burden of proof is on anyone who would make a definite statement that single trauma is the primary cause of a malignant tumor.

* * * *

To return once again to the case which prompted me to look into the question of cancer being caused by a single trauma: The plaintiff got a judgment of $25,000 against the hotel company. I do not know the basis on which the verdict was rendered.

The literature just quoted does not support the theory that a cancer can be caused by a single trauma. This case demonstrates how easily unwarranted, unjustifiable damages can be awarded a litigant through the failure of medical witnesses to give medical evidence based on a careful review of modern scientific data.

INDUSTRIAL ACCIDENTS AS COURT CASES

A surgeon should consider every industrial accident as a potential medico-legal problem, for his testimony will often be necessary to determine the amount of disability involved. For this reason, it is essential that he should keep accurate records, both for positive and negative findings. It is certain to be disconcerting to a surgeon to have the opposing side present evidence which may not actually have to do with the accident in question, but which cannot be refuted properly for the reason that a contradiction would be based purely on the surgeon's memory and not on definite statements in his record. Because of too brief records or carelessly kept records, the plaintiff may, and often does, get an unjustly awarded verdict. It is similarly disconcerting to the surgeon who has failed to have necessary pictures taken, if subsequently pictures presented by the opposition prove contributory negligence on his part. On the other hand, careful records, indicating that certain disabilities did not originally exist, will defeat many an unjust claim.

There is one symptom which the surgeon cannot discount, and that is pain. One cannot assuredly prove that an individual has no pain. This point is demonstrated in an instance which I shall now cite:

A laborer had sustained an injury to his knee. The man was operated on and a dislocated internal semilunar cartilage removed. Several months later he continued to complain of pain and weakness in the knee. Accordingly the insurance company was advised to settle the case, as it was hard to estimate how much of the man's complaint was really weakness and how much was financial distress. The insurance adjuster insisted on being told the percentage of disability present; and, since the surgeon in question could not conscientiously state this percentage of disability, an "expert", who claimed that he could give it, was called.

The case went to court. The operating surgeon was subpoenaed. At the trial, his testimony consisted of reading the facts of the case from the records. Later the "expert" was called to the stand. He testified that the patient had no disability; that the man suffered from nothing which would not be cured by the payment of his claim. At this juncture the plaintiff's attorney asked the "expert" if his opinion was based on his own examination; to which the "expert" replied that it was. Then the defendant's attorney asked the doctor if it were not a fact that he had only had the patient walk across the office, without even having the patient remove his trousers. The doctor was compelled to answer in the affirmative, thus admitting the carelessness of his examination and the superficial evidence on which his statement was based. The court awarded damages to the patient.

This is but another unhappy illustration of why medical expert testimony is so often discredited in court. In this instance a doctor qualified as an expert in a field foreign to his primary interests; and to make matters worse, his statements were based on a superficial examination. One need not go far afield to find the lessons which we should gain from such instances.

MALPRACTICE SUITS

A doctor is often called into court for reasons other than to give factual or expert testimony. I refer now to the testimony given in cases which come under the classification of malpractice suits; that is, suits which are filed against a doctor for either real or alleged causes of action.

Every doctor should be protected from suits of this kind by some form of liability insurance. Fortunately, in addition to insurance of this type, a doctor is supported by the protection which the State Medical Society throws around the profession as a whole in such cases.

Some of the experiences which one has in connection with this type of suit are rather interesting. For the sake of this particular presentation, I shall mention three of my own:

1. A personal case in which I was threatened with a malpractice suit.
2. An instance in which I was called as an expert witness in the case of a doctor who was sued for malpractice.
3. A case in which my advice was asked in reference to a threatened suit against a doctor.

In each of these instances, certain valuable points were brought out. Concerning the instance in which I myself was threatened with a damage suit, the following are the circumstances:

> I received a letter from a legal firm in the City of New Orleans, advising me to call at their office at my earliest convenience to make suitable amends "because as a result of my unskillful management of the young woman's broken arms, she was unable to earn a living for herself and her infant son."
>
> The only recognition I took of this letter was to notify my insurance company that I had been threatened with a suit. Then I proceeded to forget the whole thing.
>
> About two weeks later the telephone in my office rang. My secretary advised me that the lawyer who had written me would like to talk to me on the telephone. I asked her to tell him that I would not talk to him over the phone, but would be glad to entertain him in my office. He agreed to come up. I suggested to my secretary that when he came she should go into the next room and take down everything which was said by both of us in our conversation.
>
> Immediately upon his arrival at my office, the attorney said: "Doctor, I wish to apologize, for I pulled a bonehead play." I answered that I appreciated fully the fact that he had pulled a bonehead play, but that I had intended to let him go ahead and sue me; and that I had expected to make it very unpleasant for him from the witness stand. He seemed very much astonished at my attitude and he asked me what I meant by that. I replied that he had threatened to sue me for unskillful management of the young lady's broken arms; but that I was going to state from the witness stand that the young lady did not have and had not had broken arms. At this point, the lawyer interrupted me to ask what the young lady did have. I replied that I did not intend to place myself in a position to be sued for either violation of confidence or for libel by answering that question. (As a matter of fact, the young lady had bilateral gonorrheal wrist joints; and the infant son in question was an illegitimate child.) I heard no more of this particular damage suit.

A doctor is often called upon to testify as an expert when a fellow practitioner is the defendant in a malpractice suit. I believe that when this happens, the doctor so called is obligated to do several things before he agrees to take the witness stand in his colleague's defense.

In the first place, he should familiarize himself thoroughly with all the circumstances surrounding the case, both from the standpoint of its management and the standpoint of its outcome. He should be extremely careful to investigate thoroughly the claims made in the plaintiff's statement, as well as the denials made by the defendant doctor, so that he will be able to judge whether or not he is justified in supporting his colleague; and if he finds, after investigating all of the evidence painstakingly, that his fellow practitioner is really liable, he should not, in justice, appear as an expert in his defense. In such instances he should rather try to persuade the doctor at fault to compromise the suit, instead of permitting it to come to trial; stressing the fact that a doctor's conviction in a suit of this kind would do irreparable injury to his reputation and would ruin his future in the community.

THE CROSS-EXAMINATION

I cannot stress too strongly the importance of thorough investigation of both sides of the case by the doctor who is asked to give expert testimony; for the doctor who is to testify must realize that he is going to be questioned not only by his colleague's lawyer, who will naturally be kindly disposed, but also by the lawyer for the other side, who will do everything in his power to tear down the expert's testimony in order to obtain a judgment in favor of his own client. For this reason, the doctor who is testifying must have at his command facts which cannot with ease be proved to be incorrect.

A doctor must remain cool when giving testimony. He should make his statements in clear and simple language, and, whenever it is necessary to resort to the use of medical terms, he should make every effort to explain the import of the terms, so that the jury and the judge may not wrongly feel that technical nomenclature is being employed deliberately to confuse them and prevent them from evaluating the meaning of what is being said. The simpler, the less obscure the testimony is made, the better it will be for all concerned.

When an expert first takes the witness stand, there is usually a long hypothetical question put to him. In order to prepare himself properly to answer such a question, it is wise if possible for him to have the question made available to him before he is put on the stand, as it is manifestly impossible for anyone to answer at a moment's notice a question which may be six, eight, or ten typewritten pages in length. Such hypothetical questions should be studied carefully, and a definite opinion on them arrived at before the expert attempts to testify.

One of the most interesting experiences I have ever had was a controversy over such a hypothetical question. After answering the question for the defendant's attorney, and after my examination by him was over, the plaintiff's attorney began his cross-examination.

Let me say right here that it adds to the prestige of an attorney if he can confuse a witness; if he can get him to contradict himself; or if he can get him excited about an issue. Confusion, contradictions and excitement always lead to trouble for the witness. Crafty efforts are made by the opposing attorney to force contradictory statements into the records. To illustrate this, I should like to quote briefly some of the cross-examination to which I was subjected by the plaintiff's attorney in the case just mentioned. In connection with the hypothetical question which I had just answered, the attorney asked:

Q. How long after you had read it did you make up your mind that you could answer every question in there "yes"?

A. Mr. X, when I felt satisfied that I could honestly answer it. I didn't make up my mind in minutes or hours. I made up my mind when I felt that it was my honest conviction.

Q. Well, you read the questions Saturday?

A. And I have read them since.

Q. Did you, on your first reading, decide that you could answer them all affirmatively.

A. I believe I did; but I have read them and re-read them, so that I could be sure of my opinion.

Q. Then I may assume that you read the questions and then and there decided that you could answer them "yes"; that later than that you read them over again and adhered to your first impression?

A. I think your presumption is just a little too much.

Q. Well, what about it is too much?

A. For the simple reason that in anything I do, I don't believe that the first reading of anything is sufficient. After reading law the first time, any law case for the first time, I don't think you have come to all conclusions as to exactly what your attitude is going to be, and that is exactly my point. In practicing surgery and in coming to conclusions as to what I feel I should do, it is my continuous practice to provide myself with as much information with reference to a particular situation as I can, whether it requires one reading or three readings.

Q. Then may we assume that you did not make up your mind on your first reading that you could answer the question "yes"?

A. I think it is a gratuitous assumption, sir, and I don't think it has anything to do with whether I answer it one way or another, as long as I have answered it; and we will both take it for granted that each of us is a gentleman.

Q. It is rather important to us to know whether your mental attitude toward that question was one of ready acceptance—

A. My mental attitude is—

Q. Let me finish my question, Doctor—was one of ready, easy approval of what was done—whether you did not at once jump to the conclusion or conclude that everything in that question should be answered "yes", but that you pondered over it and finally determined that you could.

A. The best answer that I can give to that is, you have known me for a good many years and you ought to have the impression that I am not one of those who jump hurriedly at conclusions. I weigh matters definitely before I come to a conclusion, and when I do, it is a conviction with me, sir.

Q. But at any rate, if you had answered my question "yes" or "no", your answer would have been "no", wouldn't it?

A. What is your question that I would have answered "no"?

Q. You answered it without knowing what it was, Doctor?

A. I am asking you to repeat any question I have answered up to the present time; and I have told you twice, Mr. X, that I don't answer questions without having understood them, but I am not prepared for you to try and trip me up by saying, "Did you answer it 'yes' or 'no'," without knowing what it was.

Q. That was only a pleasantry, Doctor.

A. I understand, but when it comes to questions of my honor, sir, let us not indulge in pleasantries.

Q. Your honor is not involved here at all.

A. Well, it is when it comes to a question of whether I answer questions without giving thought to them; and we are too good friends for you to impugn my honor.

Q. Your honor is not involved here. It is above that. But we are going to differ a whole lot on some of the conclusions that you have come to, and, I hope, amicably.

Aside from trying to confuse a witness, or trying to force him to make contradictory statements, it is a common practice for an attorney to present a volume to the expert on the witness stand and say, as an attorney said to me:

> Q. You know the work of W. C. on fractures and dislocations, don't you?
>
> A. I am very familiar with it. I happen to know Wilson in person.
>
> Q. A top man in America on certain fractures, isn't he?
>
> A. A top man, but not the top man; and that book is an old one.

The object of presenting such questions is to try to get the witness to agree that the work in question is authoritative in character; and if he does, the attorney then proceeds—as in this case—to quote from this work and use it as the basis for his side of the story. The attorney attempted to do this to me, but in reply to his questions about this book, I answered: "I am perfectly familiar with it and familiar with a good deal of improvement, and that a good many other people disagree with the opinions expressed."

Whenever one disagrees with an authority quoted by an attorney, he must be prepared to give his own references; and, if necessary, to quote from them. It is well to be prepared for this by having as much of the literature as possible available in the court room at the time of the trial, so that it may be introduced as direct rebuttal to questions asked. If one is not familiar with contemporary thought on the subject at issue, evidence may be introduced and accepted by the court as authoritative from volumes which are long since antiquated and no longer relied on as authoritative by the profession today. Therefore, in giving testimony one should be certain that he has at his finger tips as nearly as possible the latest expression of the authorities whose opinions are valued highly for purposes of rebuttal. You have not the time to go and read up after you are on the witness stand. The time to prepare for giving your testimony is before you accept the responsibility of appearing in court as an expert witness. Preparation beforehand is as essential here as it is in any other undertaking which might be assumed by a man in the course of his professional activity.

Very often if an attorney cannot confuse a witness or prove him to be ignorant, he will make an effort to mark him as an egotist. His success in this endeavor will certainly not redound to the credit of the expert witness, nor will it reflect credit on the cause. It is well for the medical expert to be wary, always on his guard. The following questions, put to me when I was testifying in defense of a colleague in a malpractice suit which was defended by the Louisiana State Medical Society, will illustrate this point. The attorney said:

> Q. Doctor, can you tell us who selects the experts to appear in these cases, the defense of which is undertaken by the legal defense committee of the Louisiana State Medical Society?
>
> A. The only thing I know is what you have heard in the by-laws which were read to you, and I think they are perfectly clear; that it is a committee of the Louisiana State Medical Society. And further I might add they probably select men that they think are qualified to enlighten people, and not to confuse them.
>
> Q. They select the most brilliant, able, outstanding, eminent members of the profession, don't they, doctor?
>
> A. If I were to answer that question in the affirmative, you would say that I was a consummate egotist, and I will not answer it that way.

Abstracts from the records and cross-examinations in this particular case are typical of the usual case in which the medical expert testifies; and they demonstrate clearly the difficulties which confront him from various angles. This particular case was won by the doctor defendant, and I might add that the young doctor was as happy over his victory as anybody I have ever seen. For a great load had been taken off his shoulders; and his opportunity to practice in this community was restored, unhampered by the cloud which would have rested over him permanently had he not won this case.

We must not forget, however, that there are instances in which the doctor who is being sued is really at fault. One must always bear in mind the fallibility of human efforts and the possibility of something happening, even where the intentions are of the best, that will render the doctor liable. I believe that if doctors are perfectly honest in their contacts with their patients and if they will utilize every bit of knowledge which can be brought to bear on their branch of medicine, the question of a doctor's liability in a given instance will not occur as often as it does now. Nevertheless, as I said above, cases in which a doctor is liable do come up; and, because they do, we must be ready to face them and to counsel the doctor, if our advice is asked, to compromise the case rather than let it come to trial.

I was successful recently in persuading a doctor to settle a claim against him out of court. The plaintiff was referred to me. After listening very carefully to her story and after examining the x-ray pictures on which she based her claim, I was convinced that the doctor was really at fault. I had a conversation with him. I told him it appeared to me that he was "in a tight position" and that my advice to him would be to compromise the suit if possible; and that I did not see how any medical testimony could be of service to him.

A few days after my conference with this doctor, I received word that the case had been settled out of court. I believe that a great deal of good was accomplished by this settlement. If the case had gone to court, much damage, far more than the amount involved, would have been done the doctor's reputation. In an instance of this kind, I believe that great benefit can be derived from proper advice to the doctor at fault, and amicable settlements can be made out of court.

SUMMARY

1. In court a doctor is called upon to defend himself or a fellow-practitioner. It is our duty so to conduct our practice that causes for justifiable malpractice suits will diminish in number.

2. In testifying one must not confuse factual testimony with expert testimony.

3. Either expert or factual testimony should be given in as simple language as possible.

4. We are called upon to give factual testimony. Adequate records will avoid much controversy and will aid the court in settling the problems at issue.

5. We are called upon to give expert testimony. In order that our testimony will aid justice it must be unbiased and the opinions expressed should be based on knowledge of the literature of the subject as well as on extensive personal experience.

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DISCUSSION

Dr. William P. Bradburn (New Orleans): Dr. Cohn and I feel very strongly on one point and that is that the doctor in court should at all times show firm adherence to the ethics of the medical profession, particularly as regards records of facts medical and their interpretation and presentation in true honest medical thought. Francis Bacon aptly states: "No pleasure is comparable to the standing upon the vantage ground of truth."

We must admit however that on some points there may be a variance of opinion equally backed by eminent authorities. But on certain medical truths there is a unanimity of opinion, and it is these facts which should not be distorted or half clothed so as to lead to faulty deductions by the court or the jury.

The object of all medical evidence before a court whether it be factual or expert, is for the purpose of establishing facts for judicial determination.

Whether it be the doctor in his own defense or in the defense of a fellow physician, or a statement of facts as regarding a patient he may have seen; whether he appears in that case as a lay witness or medical expert, careful notes at the time of consultation with follow up are quite important. Their use is allowable and most desirable. The doctor's attitude should be one of frankness and sincerity, backed by a firm conviction of his opinion, reinforced if necessary by expert medical authorities, avoiding at all times any suggestion of egotism. The answers to all questions should be in simple understandable language and if medical terms are necessary they should be definitely and clearly defined. In other words the expert should be so sold on his opinion, honestly and unbiasedly formed, that he can sell it to others. It is impossible, therefore, to conceive how a doctor could testify one way in one case and directly opposite in another, simply because he happens to be representing the plaintiff instead of the defendant. This is unfortunate, as it creates in the minds of attorneys either of two things, the lack of honesty in a medical witness or the absolute uncertainty of medical thought, particularly as concerns basic facts. As a medical expert do not be too eager to answer a question until its full meaning is thoroughly clear. If the question be ambiguous do not hesitate to refuse to answer until it is so presented that the answer will be definite and not lead to a double interpretation, as this type of question is frequently presented. Again never answer a question, yes or no, where the yes or no needs an explanation to present fully the accepted exceptions.

One point to be borne in mind is the careless, or rather unthinking issuance of certificates or other written statements which you may be called upon later to defend; the statement itself being impossible of defense. These generally are given at the request of the patient or patient's family so that they may be used in obtaining a settlement, but remember all settlements are not made out of court.

Courtesy to the court and the attorneys for the plaintiff and the defendant should always be maintained, in spite of the fact that sometimes lack of courtesy is shown by the opposing attorney in his enthusiasm and desire to win his case, or at other times deliberately so in his effort to ruffle the witness. And in this upset equilibrium the doctor will lose his better judgment and in answering the subtle questions then put, will apparently contradict himself, and lead to faulty deductions or discredit himself as a witness. Frankly, the whole question of medical testimony, except factual, is in my mind not fair to present to a jury, not trained, or even familiar with medical facts, to decide a case where the basis of decision depends upon evaluation of medical testimony; and particularly so, where there is such divergence of opinions. In fact some of this testimony given by "experts" would be startling and even impossible of interpretation by the man medically trained.

The ideal would be in those cases where medical testimony is involved, particularly debatable points, to have such medical presentation decided by a group of physicians appointed by the court, to act as a medical jury. These men naturally must be unbiased and above criticism due to their honesty and experience. Their decision as to the medical findings would be final. This medical decision combined with the other testimony presented to the court, should form the basis of decision in the case. I think my idea is clear although very sketchily presented.

As a medical witness, factual or expert, as a man in general, nothing could be more appropriate at this point than the advise of Polonius to his son. Quote:

"This above all: to thine own self be true,
And it must follow, as the night the day,
Thou canst not then be false to any man."

Dr. Val H. Fuchs (New Orleans): A lot of things Dr. Cohn brought out are true, particularly in regard to malpractice suits against doctors. There is one little point in his talk that I would like to correct because some of the men present may get the wrong impression. Dr. Cohn mentioned that we should all be protected by malpractice insurance and that we are fortunate in being protected by the State Society. We are protected by the State Society only to the extent of being furnished medical defense, legal talent only. Some of the men throughout the state have the idea that they are also insured from a monetary standpoint. The State Society will furnish legal defense and nothing more.

Many of the cases that I saw during the six years I had charge of the medical defense were due to the fact that the doctors called in on the case usually passed some remark about the case which the patient took up and nine times out of ten those cases were entered as malpractice suits. Let me caution you, when going in to see these cases that you should be careful of what you tell the patient and what you say about the other man's work. I think many of our cases that come up before the Medical Defense Committee could be avoided if the physician called in after the patient has been seen by somebody else acts cautiously. Try to do to the other physician as you would have him do to you.

Dr. Roy B. Harrison (New Orleans): I have nothing to say except to add to what Dr. Fuchs just said. I have testified in a large per cent of the malpractice suits for the State Society in the past ten years and I believe that 80 per cent of these cases would have been avoided if the second man who saw the case had been more discreet about his remarks of the first fellow who saw the case. I believe we would not have one half of the cases if the second fellow would be a little more careful.

Dr. Isidore Cohn (In conclusion): One of the dangers is being unprepared when getting on the stand as an expert. The doctor who honestly presents facts should have no difficulty as a witness. When acting as an expert witness the doctor should present unbiased opinions which reflect the concensus of present day knowledge. Our function is to aid justice.

MEDICAL JURISPRUDENCE*

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Dr. John Glaister, Regius Professor of Forensic Medicine at the University of Glasgow and one of the outstanding modern authorities on the subject, states that medical jurisprudence, forensic medicine and legal medicine are synonymous and designate the science which correlates medical knowledge to the purposes of the law. It follows, necessarily, that the scope of medical jurisprudence is so vast as to prohibit its being in any way covered within the time limit for this presentation, for its ramifications include medical evidence, the duties of the medical examiner, the performance of autopsies, personal identity in its medico-legal bearings, identity of the dead, death in its medico-legal relations, wounds in their medico-legal significance, evidence of rape, lunacy in its medico-legal aspects, toxicology or the action of poisons and their postmortem identification, to mention but some of the many subdivisions of this large question. In order to present something which, I hope, will be of interest to a general audience, I have decided to limit my discussion to three phases:

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*Read before the joint meeting of the New Orleans Graduate Medical Assembly and Orleans Parish Medical Society in New Orleans, Louisiana, on February 9, 1939.

1. Medical evidence.
2. The legal phases of psychiatry.
3. Psychiatry and criminology.

Most physicians are fearful of the courtroom and of the witness stand, and rightly so, for it is almost a truism that the medical man makes a poor witness; instances abound where a clever and brilliant cross-examiner has made a thoroughly competent practitioner look like a first-year medical student and a poor one at that. It is well for physicians to know something of forensic medicine, for more and more are they being called upon to testify in either civil or criminal courts. In these days, with the increase in automobile accidents, with the speeding up of transportation, reckless and drunken driving, high-powered cars and slippery roads, many more damage suits are on court calendars than in the "dear, dead days beyond recall," and in each of these the doctor is an important witness. Again, the prominent place taken by so-called "occupational diseases," especially those involving the respiratory system, such as asbestosis, silicosis and others, call for more and more expert testimony, so that the appearance of the doctor on the witness stand is on the up and up.

The medical profession and the legal profession appear at first sight to be very far apart—further apart than they should be, for, after all, medical men should be more sensitized than they are to a sister profession whose innate motives are as noble as their own. They should refrain from judging that profession by its unworthy shyster members, just as the law should not judge medicine by its black-leg doctors. To quote: "The physician, as a learned man, should take delight in the fascinating exhibitions of learning, brilliance, logic and common sense intricated and skillfully woven into the patterns of truth which are spread before us in the published reports of our great courts."

Dr. William G. Morgan, of Worcester, Massachusetts, who, in addition to his M. D. also holds the degree of LL. B., has this to say: "Who are doctors? They are members of our community who are granted, by law, the privilege of practicing medicine. Who may be granted this privilege? Those who are qualified by law. What is the practice of medicine? It comprises certain activities defined by law. How is the practice of medicine conducted? According to rules established by law. What is the relationship between the physician and his patient? It is a status defined by law. Can there be a doctor who isn't interested in law?" We have no issue with Dr. Morgan in the abstract. When it comes down to the concrete fact of a physician taking the stand in a civil or criminal suit, as a rule he wishes he were home and in bed.

The medical man has certain privileges and certain duties when testifying. When called as an ordinary witness, he is to testify only as to matters of fact: an operation performed, a person found dead, or a broken leg in an automobile accident. If, however, he is asked questions involving a matter of opinion, then he becomes an "expert" witness and has a right to refuse to reply unless and until his fee as expert witness has been arranged. These fees vary in different states. Needless to add, the provident physician will see to it that the matter of fees as an expert is taken care of before the case comes to trial. It is an odd thing, and practically a paradox, that in stating his opinion, a physician on the witness stand cannot quote or refer to any medical authority, for the legal theory is that his opinion must be wholly unbiased and not supported by precedent. This is all the more to be wondered at when it is considered that if there is a profession rock-ribbed in invoking and citing the tradition of precedent, it is the legal profession. Of course, there is a way out—there always is—the testifying physician makes the opinions of the authorities that he has consulted his own, and everybody is happy.

It might be said, in passing, that the vast majority of malpractice suits have their origin in some casual remark made by a physician who sees the patient after he has been treated by some other practitioner for the particular condition for which the suit is brought. Phrases lightly uttered are apt to stimulate the injured man to seek financial redress, and words such as—"what a rotten job!"—"who butchered you?"—"I'd sue that quack"—uttered probably without thought of their possible results are often the starting point for legal proceedings against a man who did his best under the circumstances. To my colleagues, I say: "Verbum sap."

The medical man on the witness stand should, above all, cling to simplicity—in dress, in demeanor, and especially in language. The jury is not favorably impressed by style-plus clothes, a disposition to be jocose and to wisecrack, and a display of long and terrifying technical terms. The following amusing and illustrative anecdote comes from Judge Eugene O'Dunne, a member of the Supreme Bench of Baltimore. He says: "In a case (not under my immediate observation but one reported by me) the examination was as follows:

"*Lawyer*: Now, Doctor, in language as nearly popular as the subject will permit, will you please look at the jury and tell them what was the cause of this man's death?

"*Doctor*: You mean the proxima causa mortis?

"*Lawyer*: I don't know, Doctor, I will leave that to you.

"*Doctor*: Well, in plain language, he died of an edema of the brain that followed a cerebral thrombosis, or possibly embolism that followed, in turn, an arteriosclerosis, combined with the effect of a gangrenous cholecystitis.

"*Juror*: Well, I'll be God-damned!

"*The Court*: Ordinarily, I would fine a juror for saying anything like that in this courtroom, but I cannot in this instance justly impose such penalty upon you, sir, because this court was thinking exactly the same thing."

The physician on the stand must realize that he is there to instruct both judge and jury along lines with which they are not cognizant. Simplicity is the great essential of a good teacher. On the other hand, the physician, especially under cross-examination, finds himself confronted by a lawyer who has "read up" on the particular question at issue but whose knowledge is necessarily very limited and who is exceedingly desirous to extract positive "yes" or "no" answers from the witness—answers which, because of the physician's greater knowledge, it is often impossible to give.

It is here that one sees the fundamental difference between the standards of philosophy and ethics of law and those of medicine. The philosophy and ethics of law deal with the relationship between an individual guilty or not guilty of a crime, or one sane or insane, or one who feels that he has a grievance against another, and his legal adviser, whose duty is to exert every effort within the realms of honesty to secure a decision favorable to the life, liberty or property of his client; and since all traits of human nature enter into these legal conflicts, the lawyer can play upon these human characteristics and still remain ethical, provided he remains within the bounds of integrity.

The philosophy and ethics of medicine, however, have different standards. Physicians are trained in the art and science of medicine and, therefore, are experts. There are certain facts in medicine that are based upon absolute truths. There are other facts in medicine that are controversial. Here opinions may differ because of a difference in interpretation of certain types, symptoms or tests, or a difference in judgment influenced by one's past experience with the particular problem. However, even here careful study, consultations with colleagues, judgments based upon probity and an unimpeachable adherence to the truth will bring the facts near to, or within, the bounds of absolute truth.

With these rather incompatible viewpoints and objectives, both of them thoroughly justified for each profession, it is not to be wondered at that doctor and lawyer frequently find themselves at loggerheads.

When we approach the question of the legal phases of psychiatry, we run into one of the morasses in which both professions are often bogged. To quote Dr. Abraham Myerson, of Boston: "The reason is obvious—most human and, therefore, most legal interactions are on the basis of the mentalities of the individuals concerned." However, here again we run up against absolute opposites in the philosophies of law and medicine. Law is essentially not concerned with etiology or cause. If a man is accused of committing a crime, law's primary interest is: "Did he or did he not do this deed?" Then again, law is not interested in diagnosis and does not care whether the individual involved in the crime has paresis, dementia precox or what not. In both cause and diagnosis medicine is vitally interested. Where both professions meet on common ground is that both are keenly concerned about results: that is, the impairment of mental capacities, as this bears on certain phases of responsibility and on certain phase of contractual capacity.

In the earlier days of our civilization, individuals guilty of various crimes were punished according to the sentence determined by the statute without regard to their mental condition. Gradually, as human relationships became softened, there developed the idea that there must be capacity to choose a line of conduct and to know the nature of an act before one could be punished. By the same token it became evident that the same punishments could not be meted out to children as were imposed upon adults for similar or analogous crimes. There also developed the knowledge that certain people were sick or irresponsible mentally (idiots, lunatics) and, therefore, could not be held answerable for their acts.

The law postulates that an individual has a free will and can make a choice as to the nature of the conduct he elects to pursue and believes, therefore, that only where there is disease of the will is there lack of responsibility. It also believes that normal individuals are able to know the consequences of their acts. It has accordingly built up its premises as to responsibility on two propositions:

1. Ability to choose.
2. Knowledge of consequences.

Dr. Myerson states: "The question of the responsibility of an individual rests on the famous McNaughton case, where the House of Lords sent to the Lord Chancellor certain questions as to the responsibility of a criminal. The answer came back that an individual to be responsible must know the difference between right and wrong, that is, he must be able to choose and discriminate on ethical grounds, and second, he must operate with a free will, that is, he must not be under the push of an irresistible impulse." These, then, are the limbs of our law:

1. Ability to know the difference between right and wrong.
2. Ability to resist an impulse.

This plain statement of the fundamentals of the law is all right as far as it goes, but it does not satisfy the researches of medicine. Ask any low-grade moron whether it is right or wrong to steal or to murder and he will at once give the right answer; but place that same individual under adverse or unfortunate circumstances, where he is incited by his associates to embark upon such and such a course, and he will yield and proceed to steal or murder without being at all under the influence of an "irresistible impulse"; but simply giving way to forces that dominate him, to following the easiest way, to a desire to "get rich quick," or to any of a score of other urges. A true irresistible impulse (which, by the way, is quite incapable of definition save by repeating the same words in a different order, as "an impulse which cannot be resisted") is a very definite entity, rather rare, and, unless falsified as is often attempted in court, is almost self-evident upon presentation of the facts and emotions leading up to its release.

I am not enough of a psychiatrist to enter into any detailed discussion of this whole question, even did time permit. It is brought forward to show again the necessary divergence of the legal and medical aspects of a situation upon which both doctors and judges are daily asked to give opinions and pronounce judgments; cases involving the life, liberty and pursuit of happiness on the part of some members of our citizenry, and cases the disposition of which is all important in order that justice be done the accused and that society be protected from an enemy at large.

The capacity on the part of an individual to make a will is a question upon which the legal and the medical professions are often at variance. The physician involved does not have to be a psychiatrist; in fact, in most cases he is not, for the vast majority of instances of a questionable will appear in courts of law after the death of the testator. It is in these will battles that one sees exhibited in all its naked sordidness the cupidity of man. Testamentary capacity under the law involves three main factors:

1. Has the testator made the will of his own volition? He may be influenced to a legitimate degree, but it is unlawful to bring pressure in an undue way. (How anybody is going to decide this question is beyond me).

2. Did the testator know, in a general way, the nature and whereabouts of his property? He need not have known this in detail but he should have had some knowledge thereof.

3. Did the testator know the nature of the obligations he had toward those who would naturally be the recipients of his bounty, i. e., blood relations or those close to him by some natural relationship? The physician who has attended the deceased should be aware of the legal definition of "testamentary capacity," and should be prepared to state as succinctly and as definitely as possible his opinion as to the condition of his ex-patient at the time the will was executed.

I would like to cite a case which shows, I think, where the perspicacity of the court certainly outstripped that of the physicians, who definitely and rightly diagnosed the individual insane. It is an interesting example of an insane person acting with remarkable intuition, much as a sane person would.

"A man was at a state hospital for ten years—from 1922 to 1932. Then his father died, leaving over $200,000, and this was administered by a guardian. The man was taken out of the hospital and boarded in a neighboring city with an attendant in whose family he lived until he reached the age of seventy. At the age of sixty-eight he made a will, distributing his bounty mainly to the attendant, the attendant's wife and their child, and the rest to an aunt, to her son and to some first cousins. But he excluded his other aunt, his other first cousins, and like natural relatives, completely. He had been declared insane, was insane, had heard voices, 'God communicated with him.' He was a pleasant, harmless old fellow, somewhat untidy, and very fond of the attendant and his family. . . . The will was contested on the ground that the man was insane and without testamentary capacity. The question came up: Why did he exclude his cousins, aunts, etc.? The answer was that they had never visited him, forgot his birthday, and sent him nothing at Christmas, and showed absolutely and completely no interest in him until he died. The aunt whom he remembered was one who had visited him at Christmas; her son, whom he remembered, had also visited him every year. The attendant was very good to him and the wife of the husband treated him like a daughter might. The judge stated in his decision that the will was the kind a normal individual would have made, remembering the people who were good to him and excluding others. Thus, the will was valid and not falsified by delusion. He did know the nature and distribution of his property, although only in a limited way. 'I have a considerable amount of money with the Trust Company, and they send me so much money per year, and that is all I know about it.' He had sufficient knowledge of the whereabouts of his property, knew the nature of his obligations to others; and the fact of his insanity did not invalidate his will."

My hat goes off to the judge for his broad vision and deep human understanding.

When we turn to the question of psychiatry and criminology, there is today a great need to introduce into the criminal law and its modes of administration the lessons concerning human behavior which scientists and experts in problems of human behavior have learned. In an attempt to achieve this, there have been joint committee meetings since 1927 between the Psychiatric Jurisprudence Committee of the American Bar Association and representatives of the American Medical Association, the American Psychiatric Association and the American Neurological Association. These meetings were established because, as a result of much publicity given to the testimony of psychiatrists in a number of spectacular criminal cases, a critical attitude had arisen on the part of lawyers towards psychiatrists and on the part of psychiatrists toward lawyers, resulting in harm and injustice to both. Psychiatrists with the modern conception of mental problems found it hard to accept the old legal definition of insanity. The court trial created a difficult situation when the psychiatrist was employed as a partisan of either state or defense and, therefore, suspected of biased judgment. To quote: "It was, however, evident to progressive jurists and criminologists that no judge can properly protect society and justly sentence a felon without knowing the facts scientifically and psychiatrically determined about the individual adjudged guilty."

Dr. Louis S. Cohane, Chairman of the American Bar Association Committee on Psychiatric Jurisprudence, says: "We must get away from the old archaic system of a specific sentence for a specific crime and for a fixed inelastic term: we must recognize that in modern penology, emphasis is upon correction rather than punishment, with the two important elements being firstly, the protection of society, and secondly, the adjustment of the criminal. The criminal, the individual before the court, is more important than the crime with which he is charged."

The committees above mentioned have recommended the establishment in all juvenile courts, in all courts where felonies are tried, and in every penal and correctional institution, of a "psychiatric service" which is defined as: "Those techniques, arts and methods used to diagnose the mental, nervous, emotional and physical characteristics of the individual, joined with a history of the individual and of his family and of his environment and of his background, so that based upon the facts thus developed, a mode of disposition and treatment could be recommended containing a promise of the development of counteracting tendencies toward conduct which the law designates as anti-social. Its purpose, of course, is to make the most propitious disposal of the individual for the best protection of society and the individual."

This is essentially a sound idea and one which is already in practice in a goodly number of courts and institutions, but it should be infinitely more widespread, and it represents an ideal ground upon which law and medicine can meet and thresh out together one of the great problems of our society. At Sing Sing Prison no prisoner is paroled or discharged without a psychiatric report. The psychiatric service has a large future in the discovery of those prisoners who are most likely to become repeaters or recidivists. It is out-moded and medieval to both thinking lawyers and thinking doctors automatically to give the man who steals two loaves of bread, six months on the roads; to one who is guilty of forgery, ten years in state prison; and to one who commits a murder, death in the gas chamber, when psychiatric, as well as physical examination, may disclose mental abnormalities and tendencies which play a leading part in the commission of the crime and which must be taken into consideration in the disposal of the individual.

I am not advocating the mollycoddling of criminals; I am advocating considering the individual rather than the crime, and cases are frequent where the chicken-thief has within himself the potentiality of becoming a murderer and where, on the other hand, the commission of a crime produces such a reaction of remorse and repentance upon the guilty man or woman that no fears of further misdeeds need arise. Individuals must be dealt with on their own merits; not on those of the particular crimes they have committed.

As a matter of fact, the hard-boiled criminal fears far more the dispassionate, cold, calculating analysis of the well-trained, impartial psychiatrist than he does the average criminal court judge, whom he may sway by political influence, family connections, sob-stuff, sympathy, and brilliant, if sometimes unscrupulous, counsel. None of these influences the conscientious, unbiased medical man in this appraisal of the psychic constitution and make-up of the patient placed in his hands for diagnosis. Thus a service is given to the individual and to society. The judge, of course, is not obliged to follow the recommendations of the psychiatric report, but it is hoped that it will prove of such value that the bench will feel it to be of inestimable help in the proper exercise of its judicial and sentencing functions. As an example, we can take the atrocious murder of a young girl by Edward Hickman in California a decade ago. To be sure, he went to the gallows; but this did not help the murdered girl in any way. As a matter of fact, a short time before committing the murder, Hickman was released from prison on probation after having been found guilty of forgery. It may well have been that an adequate psychiatric examination by a competent psychiatrist would have disclosed those tendencies in Hickman which would have prevented probation and the subsequent killing.

Law and medicine should be closer to each other than they are at present. They have many points of contact. Both, though in different ways, seek to preserve and to protect society. Each in his separate star seeks an ideal: the law, an equitably distributed body politic at peace with its fellows and justly governed by an essentially benevolent rule; medicine, a healthy people, freed from communicable disease, as resistant as possible to all manner of infection, and the prolongation of life under physical conditions such as make life worth living. Are not these two ideals supplementary and complementary? Will not their union and blending give rise to the more abundant life? While we have been speaking rather broadly of medical jurisprudence, is not jurisprudential medicine of equal importance? Surely so, and it is only by the final march in step of the two greatest and most populous professions that the highest advantage to civilization will result.

They must march together, opposites in a sense though they may be—the one bent on perpetuating itself upon solid ground, expressed so well in the words of Sir Edward Coke: "Reason is the life of the law; nay, the common law itself is nothing else but reason. * * * The law which is perfection of reason," to which, we may add the cautioning words of Terence: "Rigorous law is often rigorous injustice"; and medicine; the most altruistic calling in the world which, in the words of Sir James Bryce, is "the only profession that labors incessantly to destroy the reason for its own existence."

POSTURAL DEFECTS IN ELEMENTARY SCHOOL CHILDREN*

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Posture is much more than a matter of personal appearance. It is more than poise, grace and balance or "good body mechanics." When the cause and effect of posture are analyzed it is realized that it is an habitual attitude which represents *the sum of inherited physical characteristics plus the effect of acquired habits since infancy.* Body contours are to some extent influenced by heredity, but to a greater extent by one's habits of eating, breathing, standing, sitting and resting. Posture, moreover, is an expression of the individual's mental attitude. Poor posture is but an expression of fatigue and exhaustion, of languor and ennui, carelessness and indifference, of pessimism and despondency. Good posture, on the other hand, bespeaks pride, ambition, confidence and alertness. The mental attitude and associated habits which beget poor posture are those in general that lead to failure and despondency, whereas, the alert spirit and physical habits conducive to good posture also result in a better physique, a happier outlook on life and the desire to excell, all of which make for success in life.

It is because of a growing acceptance of the importance of postural training that increasing emphasis is being placed on this work in our public schools. There have been very few detailed surveys of the postural defects in the primary and intermediate grades, and tendency has been to neglect postural exercises until children reached high school. The considerable number of older children with very poor posture and some with scoliosis brought by parents to me for examination during the past few years has impressed me with the need for preventive and corrective measures in the elementary school grades. It was also evident from the examination of these children that if these measures were to be effective they must include more than a few setting-up exercises each day. A survey was therefore undertaken at the Southfield School in Shreveport, La., a private institution with grades from one to nine which employs progressive methods of education and is attended by 103 children. This group should, therefore, represent a fair cross section of children in the elementary grades of our public schools.

There has been close cooperation between parents and teachers in the development and support of Southfield School and any program for the physical betterment of the children has always been met with hearty approval and intelligent sympathy. The school's physician is a pediatrician of exceptionally good training and ability who knows intimately the home environment and hereditary tendencies of each child and is quite aware of the psychologic problems present in many instances. He conducts a thorough physical examination at the beginning of each school year, makes frequent subsequent observations and confers with the parents individually about any problems, physical or emotional. The dental survey is most thorough and includes a complete roentgenographic record of all their teeth.

THE POSTURAL EXAMINATIONS

No detailed postural examinations have heretofore been made and physical education has been carried on by the grade teachers in a somewhat haphazard manner. Some doubt as to the necessity for expert assistance in corrective physical education existed among the parents composing the board of directors and the following survey was undertaken to convince them that the need was essential.

A slight modification of the examination form used by the Los Angeles City Schools was employed for tabulation of the measurements and postural defects. In addition, three to five photographs of each child were taken and mounted in a folder on the page opposite the postural data. This folder was accompanied by a second which included the report of the complete physical examination by the pediatrician. The general data of age, height and weight and physical type were supplemented by notations of the postural defects such as the head forward, a high shoulder, separation of the shoulder blades, a high or prominent hip, knock-knees, bowlegs or back knees, pronated ankles, arch defects, and, with reference to the spine, kyphosis, lordosis or scoliosis. The kinds of shoes worn by each child were noted in connection with examination of the feet. Consecutive columns were provided for similar observations to be made in subsequent years. Each child's record was then reviewed with the pediatrician and instructions written to the teacher, parent, dietitian and instructress in corrective physical education.

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*Read before the Orleans Parish Medical Society, May 23, 1938.

TABLE 1

AGE—HEIGHT—WEIGHT RATIO

	Grade	Grade	Grade	Grade	Grade
Average :	1	2	3	4	5-6
Age	6	7	8	8.8	10.7
Height	46.4	49.5	51.5	53.6	57.7
Weight	47	52	62	65	83
Overwt.	4	3	3	3	5
Underwt.	4	6	7	8	3
Normal	5	9	5	7	7

SCOPE OF POSTURAL SURVEY

The children were undressed for examination, the height and weight of each was recorded by a teacher and the postural defects were noted by the writer. Observations were made only in the standing position, but to verify the defects first noted the child was required to walk back and forth several times and his attention was diverted to see whether the attitude was constant or assumed through self-consciousness and embarrassment. The child was then photographed in the various positions by a technician with no effort made to have him pose or correct his natural posture. When the photographs had been developed and mounted, the charted defects were compared with the pictures and in nearly every instance were found to be constant.

The age, height and weight of each child were compared with the averages established in the tables of Bird T. Baldwin and Thomas D. Wood and the number of pounds over- or underweight recorded. The records were then grouped by grades; the averages and percentages of defects present were estimated and noted on graphic charts. The number of children in each grade varied from eleven to eighteen and the percentages are doubtless somewhat inaccurate but since the differences are usually great and the trends obvious, small errors are not important.

Each child in this series whose weight fell within three pounds above or below the standard for his age and height was considered to be within the normal range for dietary and exercise measures. In Table 1, the first column indicates that there are thirteen children in the first grade whose ages average six years with an average height of 46.4 inches and an average weight of 47 pounds. Only 40 per cent of the 103 pupils were within three pounds over or under the standard weight for their age, sex and height. One fourth, (25 per cent) were from five to twenty pounds overweight and 35 per cent of all were from five to thirty pounds underweight. As shown in Table 1, those in the over and underweight groups were about equally distributed among the various grades. (Figures for the seventh, eighth and ninth grades were omitted from the table but included in the percentages.) It is apparent, therefore, that 60 per cent of these children presented a problem of nutrition in conjunction with their postural deviations.

An average of the chest expansions of the children in each grade was taken and the curve of increase plotted. The normal curve was set up from the average of chest expansion of the more normal appearing children because no standard tables for children of these ages are available. These measurements indicated an average increase of about one-half inch of chest expansion between those in grades one and two and no further increase occurred during the next four years. This failure to develop chest expansion was, perhaps, more apparent than real. The examiner found that most of the children did not know how to inhale or exhale to the capacity of their lungs, nor could they be taught to do so in the few minutes allotted to each examination.

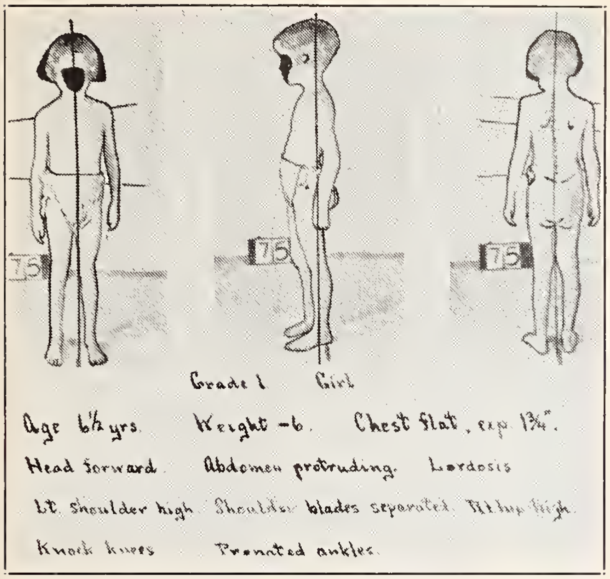
75
75
75
Grade 1 Girl
Age 6½ yrs. Weight −6. Chest flat, exp 1¾".
Head forward. Abdomen protruding. Lordosis
Lt. shoulder high Shoulder blades separated. Rt. hip high.
Knock knees Pronated ankles.

Figure 1.

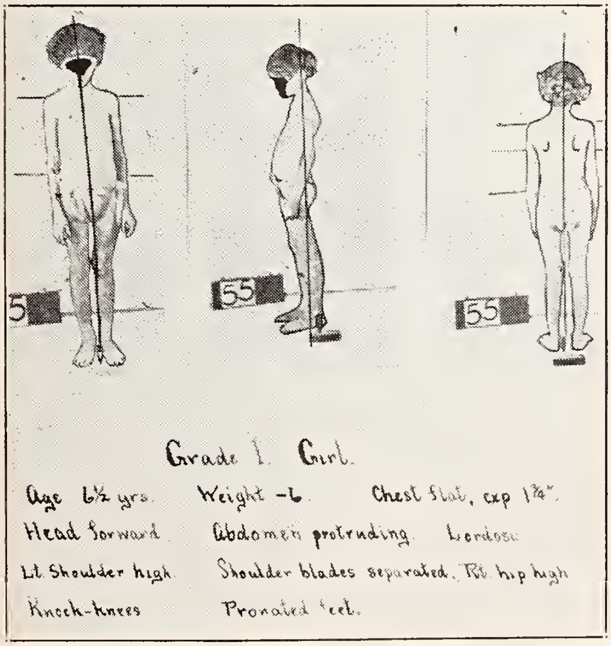
5
55
55
Grade 1. Girl.
Age 6½ yrs. Weight −6. Chest flat, exp 1¾".
Head forward. Abdomen protruding. Lordosis
Lt. Shoulder high. Shoulder blades separated. Rt. hip high
Knock-knees Pronated feet.

Figure 2.

Of greater importance were the distinctly flattened chests that were seen in 23 per cent of the 79 children from the first through the sixth grades. Flat chests are usually associated with the worst features of poor body mechanics and often represent bony malformations that are very resistant to corrective measures.

The head forward attitude was observed in 57 per cent of pupils with but slight indication of improvement among the older children. This deviation was more often seen associated with underweight and flat chests, but was present to some extent in the normal and overweight groups.

One shoulder, usually the left, was higher than the other in 61 per cent of the pupils and occurred most often in the first, second and third school years. A high or prominent hip was present in 37 per cent of the children, but was less frequently seen after the third school year.

Separation of the shoulder blades was observed in 62 cases and, in 13 of these, there was second or third degree separation, indicating marked forward drooping of the shoulders. This deviation was present in 85 to 90 per cent of those in the first and second grades and there was a trend of improvement as the children grew older.

The occurrence of a protruding abdomen and lordosis was almost the same and were most common among the first grade children. This noticeable increase should be discounted, since it is probable that many of the younger children had not lost their infantile lordosis which is not considered pathologic[1]. There was a definite trend of improvement in the higher grades. Among the 39 children with lordosis, ten had definite postural curvatures of the spine and several of these were in the younger children.

Knee and leg deviations appeared in 45 per cent of the children, the knock-knee deformity being much more frequent. Spontaneous improvement apparently does not always occur as the children grow older. Pronated ankles were seen in 65 cases and among these were seven with clinical evidence of prehallux. Other foot defects, such as flattened arches, were not separately listed in most instances. Rubber soled shoes and many kinds of poorly fitted slippers were seen on about 60 per cent of the pupils. Among all those with knee and ankle deviations, only three were wearing corrective shoes. Socks and stockings were often found to be too tight and short in the feet.

The photograph, (fig. 3) illustrates the kind of furniture used in this school. It is obviously impossible to adapt such desks and chairs to meet the postural needs of many children. An effort has been made by the teachers to adapt the height of the chair legs to the child's needs, but the high backs and broad seats encourage a slumping position or tilting of the chair and the desk height is often incorrect.

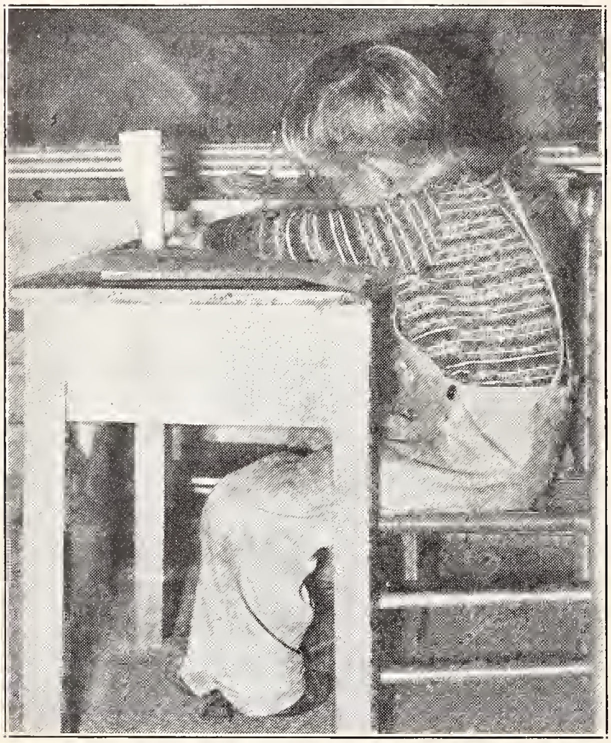

Figure 3.

Investigation of the school kitchen and routines for lunch service revealed that a generous and wholesome diet was generally served and the ration fairly balanced and varied. The obvious fault was that this same generous meal was served to all, whether they were over or underweight. Comparisons of weight records over a period of three months indicated an average increase in weight of three pounds in all the children. Further study indicated, however, that most children in the overweight group were gaining rapidly, whereas those of the underweight group, for the most part, were gaining slowly or not at all.

SUMMARY OF PROBLEMS PRESENTED

This brief survey is much less complete than the few others that have been published, but is adequate to indicate the major postural and static defects and the magnitude of the corrective problem in childhood. The problems presenting for solution in the Southfield School as indicated by this survey are as follows:

1. The majority of children at the time they enter school and throughout the elementary school years were either over or underweight as a result of faulty eating habits or unbalanced diets.
2. Most children in the first five years of school had inadequate chest expansion and had never learned to breathe deeply.
3. The postural deviations of the head, shoulders, trunk and spine which were present in 50 to 60 per cent of the children occurred just as often in the first three grades as in the second three.
4. Deformities or weakness of the knees and ankles appeared in 80 to 90 per cent of the primary grade children and in 50 to 70 per cent of those in the more advanced years.
5. Most of the shoes and socks worn were poorly fitted and tended to aggravate rather than correct any defects.
6. The seating arrangements and desks were promoting poor posture.
7. The dietitian failed to adapt the school lunch to the weight status of each child.
8. The grade teachers, although they had received some instruction in the correction of postural defects and had some general knowledge of physical education, did not know how to group their children and control their activities on the playground and in the schoolroom for the best postural results.

TREATMENT AT THE SOUTHFIELD SCHOOL

As a result of the postural survey the following report and recommendations were made to the directors, parents and teachers:

1. A brief outline of the character and extent of postural deviations was presented to the Board of Directors and teachers and subsequently at a mass meeting of all parents.
2. A part-time instructress in corrective physical education was employed and charged with responsibility for: (a) Assisting the grade teachers in a corrective program by demonstrating in the room and

on the playground the games and exercises adapted to their respective groups; (b) giving special corrective work to groups formed from class "D" throughout the school; (c) through talks, pictures, games and dances, awakening interest of the children in maintaining good posture; (d) aiding the teachers in adapting desks and seats as far as possible, to meet the postural needs of the individual child.

3. Following the presentation of the whole problem to parents, a report of the child's postural status and needs was sent to each with directions for getting proper shoes and socks and general advice concerning the dietary needs. In many instances personal conferences with the pediatrician concerning dietary management were advised.

4. Each grade teacher was given a list of the C and D groups in her room with suggestions for better seating, additional rest periods for some and for active exercises or play exercises as outlined by the instructress in corrective physical education.

5. The dietitian was advised to establish a training table for the overweight group, but to permit the underweight group to eat with the normal group, giving both a generous diet.

6. The Executive Committee was shown the evils of poor desks and seats and recommendations made for the purchase of adjustable types that would correspond with the principles laid down by Lovett[2].

CONCLUSIONS

1. Static and postural deviations are exceedingly prevalent among pupils in the elementary school years. They are just as frequent in the primary grades as in the more advanced, indicating the need for beginning consistent and intensive corrective physical exercises with the youngest school children.

2. Pronated ankles and knock-knees are present in such a high percentage of primary grade children as to indicate the need of a broad program of education for physicians and parents relative to the advantages of correcting such defects during pre-school years.

3. The correction of postural defects during elementary school years must be closely correlated with improvement of the dietary habits and nutritional status of the children during this rapidly growing period of their lives. The solution of this problem calls for the education of parents and teachers concerning child guidance in selecting and eating proper foods.

4. Better development of the chest by appropriate exercises during the first four years of school life should be possible and would contribute greatly to better body mechanics in later years.

5. The situation in most elementary schools in this city and state is probably the same as has been outlined from the Southfield School Survey. The correction of the trouble demands a program of education of parents and teachers as well as revision of the studies and play activities of all the children. To accomplish all this, physicians generally must be convinced of the value of and necessity for such steps, and they must, in turn, pass this conviction on to their patients who are parents.

REFERENCES

1. Phelps, Wm., and Kiphuth, R. J. H.: The Diagnosis and Treatment of Postural Defects. Charles C. Thomas, Baltimore, 1932.

2. Lovett, R. W.: Lateral Curvature of the Spine and Round Shoulders. P. Blakiston's Son & Co., Philadelphia, 1922.

DISCUSSION

Dr. Emile Naef (New Orleans): Dr. Caldwell has sounded a timely note. The usual tendency is to see that the child gets a proper diet with any necessary tonic medication, and possesses no gross deformity. No consideration is given the fact that the child must develop mentally and posturally as well as physically.

One observation made on looking at the charts shown is the failure of chest expansion in the children during the primary grades. I am impressed with the same condition existing also during the pre-school age as well as during the first years of school life. The question arising is whether this is due to any life habitus, or to the physiologic effect of environment or because of some dietetic factor. In an extensive survey of this sort, one feature I regret not having seen developed is the relationship of previous illness to postural defects.

Another important phase of posture demonstrated in the charts is the protuberant abdomen and lordotic type of posture. This type is predominantly seen in children during the first year of school life, and the question is whether this is a hangover of normal infantile lordosis or a late rachitic residual.

The costal angle is a factor in registering the general postural status of the child, the acuity or obtuseness of this angle being regarded as an index of vital capacity. It is observed of course, that the tall, slender type of child has a more acute costal or epigastric angle and the broad, stocky type has the more obtuse, and less acute angle. However, the more completely postural correction is practiced, the more the circumference of the chest is increased, with a proportionate decrease in the acuteness of the epigastric angle, and the more effectively the child develops from the suboxygenation type into a normal nutritional type.

We pediatricians are lacking in that we do not impress the necessity for correct postural habits. We do fully impress the necessity for adequate vitamin, mineral, and caloric intake in the child's dietary in order to prevent the later subnutritional states, but we neglect to impress parents and teachers with the importance of correct postural habits in standing, sitting, breathing and walking.

Dr. Paul A. McIlhenny (New Orleans): I had the pleasure of reading Dr. Caldwell's paper and I think what Dr. Naef has said is very timely, especially now that we are just ending our school term and entering into the vacation time when children of various ages will be brought to the pediatrician and family physician and general practitioner for a general check-up after nine months of schooling.

There is no doubt at all that by far the majority of these defects are simply an habitual condition, starting at the earliest time when a child is able to sit up. The parents are primarily at fault. They think immediately that the child must have a pillow to rest his head on. That seems a little far-fetched, but a child lying on his back with a pillow under his head predisposes to a faulty posture, even lying down. In walking around the child assumes a faulty attitude, either puts hands behind his back or in front and naturally develops a faulty attitude. As soon as they go to school they are confronted, as Dr. Caldwell has shown in his pictures and Dr. Naef mentioned, with uncomfortable positions due to faulty seats and desks. They are unfortunately put in a class according to their ability to be in the class and it does not make a particle of difference whether they are three or five feet high, they are put in the class in which they belong and use the desks and chairs in that class. Unfortunately, we do not have sufficient observation or supervision in our private, parochial or public schools in this regard with teachers and observers to recognize the potential postural deformities in children, and I am quite sure that my remarks will be borne out by those who are interested in children of the kindergarten as well as the primary and high school age. It is astounding to see such children at play and note that by far the majority of them are assuming postural defects due to habitual unbalance.

It is needless to say that with a flat chest we necessarily have decreased thoracic breathing and increased diaphragmatic or abdominal breathing. Immediately we have a prominent or pendulous abdomen, commonly "pot" abdomen, resulting in ptosis. Ptosis means, sooner or later, chronic constipation. Chronic constipation means lowered resistance. Lowered resistance means further reduction and it is only by careful observation of these children as soon as they begin to stand up to note their posture and try, by education of the child and cooperation of the family and teachers, to correct this condition. Pot belly and pronated feet are predisposing causes in habitual deformities, and it is astounding to note the great number of children of kindergarten or school age who show such conditions. Habitual deformities are, in many instances, easy to correct but if allowed to persist will in the majority of cases develop such structural change that forcible correction or operation may have to be resorted to in order that a somewhat normal posture may be restored.

Dr. Béla Halpert (New Orleans): I should like to ask Dr. Caldwell whether he has any information as to how many of the children with lordosis had orthostatic albuminuria.

Dr. E. A. Bertucci (New Orleans): I have been connected with the public school system for eleven years and I have had the opportunity of seeing these children from kindergarten age up to graduation from the high school. I have noticed that, of the children in the kindergarten, a goodly number have separated shoulder blades or some form of flat chest or scoliosis and so forth. Following these children from year to year, we have a card system whereby, in making examination, we check upon the physical defects and follow these up through the grades. We find, especially in small children in the kindergarten and first grades where they have, I should say, about forty or fifty per cent pronated ankles, that they gradually work out of that defect of themselves without any effort at correction. Having traced the child's habits I tried to find out whether there was any effort made to correct these physical defects, and I found that they did not usually make an effort at correction. Later, when in the fifth, sixth and seventh grades, it was noted that most often such a condition did not exist any more.

I found that about forty or fifty per cent of the children who have these physical defects have some form of malnutrition, that is some form of lack of muscular tone and later on in life, when they indulge in more active and strenuous physical exercise, they develop these muscles, the muscle tone increases and the physical defects are corrected unconsciously without special exercise. When the child gets to high school age and the physical defects are not corrected he should be referred to an orthopedic man for special form of exercise for these defects. The majority of the physical defects in children detected by Dr. Caldwell, I found gradually work out of themselves except in special cases where children who are continually malnourished or who do not get the proper amount of vitamins and mineral salts maintain these defects. In these cases the condition undoubtedly requires correction by a specialist.

Dr. Guy A. Caldwell (In conclusion): The lordosis which was noted in a high percentage of the children in the first grades, is most probably a hangover from the infantile stage.

Albuminuria was investigated by the pediatrician who was working at the same time on the group. The incidence of albuminuria was low, although I cannot give the exact percentage.

I grant that spontaneous improvement of most postural defects is to be expected in a healthy child who is growing rapidly along normal lines. The majority of the defects seen in children, as outlined here, would not require individual orthopedic attention. The idea, however, that all will spontaneously get well is probably not true, otherwise we would not find 80 per cent of Harvard's Freshmen with postural defects.

There was a survey accurately carried out ten years ago at the Chelsea School in Massachusetts in which some seventeen hundred children were divided into two groups and followed for two years. One group was given postural training by way of their own school teachers and the other group was given none. The groups were surveyed again after two years and those who had not had postural training did not show a high percentage of improvement. They showed little improvement, but spontaneous recovery was relatively slight. From six to ten times as many from the group that had postural training showed definite and pronounced improvement and retained it. In the group whose posture improved there was noticeably better scholarship, fewer absences on account of illness and much better deportment. It is because of these facts that I am pleading that we have more attention given to postural training in our schools.

THE SURGERY OF ACUTE CHOLECYSTITIS*

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New Orleans

Acute cholecystitis signifies an acute inflammatory process of the gallbladder with the clinical manifestations of a systemic toxemia, characterized by fever, nausea, vomiting, rapid pulse, leukocytosis, and local manifestations of pain, tenderness, and rigidity in the region of the gallbladder.

That several types of cholecystic inflammations may present similar pictures varying only in degree is an indubitable fact; therefore one must have a clear conception of the pathology occurring in the extrahepatic-biliary tract which is responsible for the clinical manifestations. It is the interpretation of these variables that is confusing and often leads to error in diagnosis and surgical judgment.

ETIOLOGY

A clear conception of these variable factors is obtained more readily by dividing the etiology into three parts: (1) chemical; (2) mechanical; (3) bacterial.

The chemical factor in the production of an acute non-bacterial cholecystitis probably occurs more frequently than is recognized. Mann first demonstrated that Dakin's solution administered intravenously would produce an acute cholecystitis, the Dakin's solution having a selective affinity for the gallbladder. The resulting lesion consisted of edema and round cell infiltration, which microscopically resembled that produced by bacterial invasion. Recently Aronhson and Andrews produced inflammatory reactions in the gallbladder, ranging from acute to gangrenous cholecystitis, by injecting bile salts into the gallbladder of dogs. They also produced acute inflammatory reactions in the gallbladder by giving the bile salts intravenously. The reactions in the gallbladder consisted of marked edema of the serosa which extended inward towards the mucosae. This reaction is similar to the inflammatory changes found in the gallbladder of humans. The injection of concentrated bile salts into the lumen of a dog's gallbladder by way of the common duct produced gangrenous changes in the gallbladder wall.

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society at New Orleans, May 4, 1938.

†From the Department of Surgery, School of Medicine, Tulane University of Louisiana, New Orleans.

That these chemical inflammations occur in the human gallbladder is known but not sufficiently appreciated. This chemical cholecystitis is probably precipitated by abnormal function as well as by mechanical factors. One of the most common causes is the functional disturbance of the sphincter of Oddi and duodenal spasm. This dysfunction produces an acute obstruction to the outflow of bile, resulting in an overdistention of the gallbladder. If the bile is highly concentrated and rapid absorption occurs, the concentrated bile salts produce an acute chemical lymphangitis of the gallbladder wall. However, in the majority of cases, this inflammatory reaction subsides rapidly. This type of chemical lymphangitis of the gallbladder produces the clinical manifestations of an acute cholecystitis. It is these recurrent attacks of chemical lymphangitis and cholecystic dysfunction that are responsible for gall stone formation and secondary bacterial invasion of the gallbladder wall.

The mechanical factors, by producing obstruction of the cystic duct, produce similar inflammatory states as described above in the functional disturbances. The mechanical factors responsible for the obstruction of the cystic duct are anatomic abnormalities of the cystic duct, hepatic and cystic arteries, and gall stones. Jurje, in an extensive anatomic investigation of 194 cadavers, demonstrated that the cystic duct passed behind the common hepatic duct to enter the duct in 6.7 per cent; it passed behind the common hepatic duct and entered the duct on its posterior surface in 15.5 per cent; and it paralleled and was adherent to the common hepatic duct for a short distance. Therefore, in 53.1 per cent of 194 cadavers there were anomalies of the cystic duct. Similar studies were made by Flint upon 200 cadavers in which it was found that the relationship of the bile ducts and vessels conformed to the textbook description of the normal in only 34.5 per cent. Therefore, in Flint's series, anomalies of the ducts and vessels occurred in 65.5 per cent. Brown, of Tulane, working in the laboratory of gross anatomy, has confirmed the work of Flint as regards the anomalous vessels.

It is my opinion that anomalous blood vessels, cystic ducts, and accessory hepatic ducts can and do produce temporary and in some cases permanent, mechanical obstruction to the normal outflow of bile. These temporary obstructions by anomalous ducts and blood vessels eventually produce definite cholecystic changes. These anomalies differ in no way from the anomalies of the ureters and accessory renal vessels. It is well known that extrarenal anomalies produce acute renal colic, and in some instances stasis and infection of the kidney. Therefore, it is readily conceivable that anomalous biliary vessels and ducts are contributing factors to the etiology of chemical cholecystitis which finally terminates in bacterial cholecystitis and gall stone formation.

The development of cholelithiasis is probably dependent upon repeated functional disturbances in the extrahepatic biliary system. In the majority of instances of cholelithiasis, bacteria have already invaded the wall of the gallbladder. Impaction of a gall stone in the cystic duct produces a sudden block to the outflow of bile. Intracholecystic pressure is greatly increased and, if the stone is not floated up or dislodged, an acute chemical cholecystic lymphangitis results. Edema of the gallbladder wall rapidly ensues, extending downward around the ampulla and cystic duct. This marked edema around the cystic duct (lymphatics and lymph nodes of the cystic duct) produces compression of the venous return from the gallbladder. The venous compression augments the edema and, if not relieved, becomes increasingly progressive and infarction or gangrene of the gallbladder occurs. It is at the beginning of this stage that bacterial invasion of both the gallbladder wall and the bile adds to the inflammatory process resulting in empyema and pericholecystic peritonitis. There are, however, a few cases in which gangrene occurs so rapidly that infection plays only a minor part.

The acute and permanent obstruction of the cystic duct by gall stones and the subsequent sequelae can be compared to acute obstructive appendicitis. In acute obstructive appendicitis the clinical manifestations are produced by the obstruction and distention without systemic reaction. Early gangrene due to obstruction of the blood supply and bacterial invasion are manifested by systemic reactions: leukocytosis, rapid pulse, and fever. Perforation and peritonitis are common, occurring in 17 per cent of cases according to Heuer.

The same sequence of events occurs in the gallbladder with cystic duct obstruction. The systemic reactions manifest themselves only when severe chemical and bacterial inflammation supervene. Therefore, the most dangerous factor in the development of acute cholecystitis is the secondary invasion of the gallbladder wall and its contents by bacteria. This bacterial invasion is responsible for the majority of the complications of acute cholecystitis.

Illingworth, in 1928, from a most careful and painstaking bacteriologic study of 100 gallbladders removed at operation, found a rather high incidence of bacteria in the gallbladder wall and bile. He washed pieces of gallbladder wall in saline, then exposed the specimen to ultraviolet rays for one minute before making his cultures. Illingworth previously determined the effect of ultraviolet radiation and found that an exposure of one minute destroyed gross contamination. The gallbladder wall gave positive cultures in 62 per cent. The most frequently encountered organism was the streptococcus. The bile was found to be sterile in 60 per cent of the 100 cases. The high incidence of negative cultures obtained on culture of the bile corresponds to the results obtained by Andrews and many others.

Wilkie, in 1928, reported his bacteriologic studies in 50 consecutive cases of cholecystitis. He obtained positive cultures from the lymph node of the cystic duct in 89.9 per cent of the cases. Culture of the bile and all coats of the gallbladder gave positive cultures in six cases each, or 12 per cent, and negative cultures in 88 per cent. The streptococcus was the predominating organism found in the lymph nodes (86 per cent). The low incidence of positive cultures obtained from the bile and especially the gallbladder wall was due to the presence of bile. Wilkie conclusively demonstrated that a few drops of concentrated bile inhibited the growth of the streptococcus. This probably explains the low incidence of positive cultures obtained by others.

Wilkie injected the streptococcus into the lumen of the gallbladder in a series of rabbits with negative results. However, when the streptococcus was injected into the wall of the gallbladder, with and without ligation of the cystic duct, there occurred marked changes in the wall which persisted for months. There were also concomitant inflammatory changes in the liver. With repeated injections of streptococci intravenously in rabbits, with and without ligation of the cystic duct, a high incidence of severe cholecystitis occurred with gall stone formation. The stones were pure cholesterol stones. Mucopurulent material and gall stones developed in the rabbits that had the cystic duct ligated. In all the control animals (cystic duct ligation and saline administered intravenously) there developed a simple mucocele of the gallbladder without infection.

In all the experimentally produced cholecystic disease, Wilkie was able to recover the same streptococcus that was injected intravenously to produce the cholecystitis. This streptococcus proved to be the same as was originally cultured from the gallbladder of the human cases. The investigations of Wilkie confirm the earlier work of Rosenow.

The most careful bacteriologic investigations reveal a very low incidence of bacteria in the bile of acute gallbladders. Therefore, infection by way of the bile can practically be eliminated as a primary source of infection of the gallbladder. The high incidence of streptococci found in the wall of gallbladders and in the lymph nodes, (Illingworth and Wilkie) demonstrates that the majority of gallbladders are infected by both the blood stream and the lymphatics. The presence of bacteria in these two localities probably accounts for the progressive types of gallbladder infections observed clinically.

OBSTRUCTION OF CYSTIC DUCT

From a discussion of the etiologic factors, there is one that plays the most important role in the production of acute cholecystitis. That common and constant factor is obstruction of the cystic duct. Obstruction of the cystic duct is found in all cases of acute cholecystitis and is due to gall stones in 85 to 90 per cent of the cases. In the case of obstruction without stones there is some other factor present. I believe that this factor is anomalous ducts and blood vessels.

The fact that gall stones are the most constant cause of cystic duct obstruction indicates that acute cholecystitis in the majority of instances is the result of prolonged recurrent dysfunction of the gallbladder with repeated attacks of mild cholecystitis of the various types enumerated above. These repeated attacks of dysfunction, temporary obstruction, and chemical cholecystitis are productive of stone formation and secondary infection. In 365 cases of cholecystitis, MacCarty found lesions that substantiate the above. He found stones in 69 per cent of acute catarrh, 76 per cent in chronic catarrh, and 93 per cent in advanced chronic inflammations. Judd, on the other hand, in a review of 508 cases of acute cholecystitis, found stones present in 484, or 95.4 per cent.

This, I believe, demonstrates that acute cholecystitis is the final and end result of prolonged dysfunction of the gallbladder and its associated ducts.

PATHOLOGY

The pathology of acute cholecystitis is quite variable. There is however, a common sequence of events noted in the majority of cases. There is obstruction of the cystic duct in 100 per cent of the cases, which in 85 to 90 per cent is caused by gall stones. The impacted stone produces a sudden obstruction to the outflow of bile, resulting in a marked increase in the intracholecystic pressure with rapid absorption of concentrated bile salts both by the lymphatics and the veins. This produces an acute chemical lymphangitis of the gallbladder wall characterized by varying degrees of edema, as shown by Aronhson and Andrews, Wilkie, Denton, Feinblatt, Andrews, and Clute. The edema extends from the serosa inward and also along the cystic duct and involves the duct lymph gland. This edema soon compresses the veins, especially those situated close to the ampulla of the gallbladder and cystic duct. The veins are more closely associated with the ampulla of the ballbladder and the cystic duct than are the arteries. The venous obstruction becomes progressive and creates a vicious circle, which finally terminates in infarction, hemorrhage, and gangrene of the gallbladder wall.

This type of gangrene of the gallbladder can occur without the aid or presence of bacteria. The early lesion, not bacterial but chemical and vascular in nature, is frequently spoken of as an acute catarrh of the gallbladder. The microscopic picture is edema with slight to moderate hemorrhage and marked round cell infiltration.

In acute obstructive cholecystitis without stones (10 to 15 per cent of the cases) the obstruction of the cystic duct is due to anomalous vessels and ducts. In the noncalculous type we find the same pathologic picture as that described above in which gall stones were the obstructing agent.

I believe that this sequence of events occurs in 90 per cent of the cases of acute cholecystitis, because it has been shown both clinically and experimentally that in the acute cases the gallbladder wall is void of bacteria in over 80 per cent, and the gallbladder bile is sterile in 65 to 88 per cent.

The majority of these chemical inflammations will subside in a few days. However, if the inflammation progresses, the process becomes irreversible and bacteria rapidly invade the wall of the gallbladder and the bile. This bacterial invasion produces suppurative cholecystitis, empyema, and gangrene. It has been shown that the streptococcus is the most frequent invader of the gallbladder wall and that the colon bacillus is the most common organism found in the bile, (Wilkie, Aronhson and Andrews, and Magner and Hutcheson). That the bacteria are late invaders is due to the presence of bile and its chemical constituents in the gallbladder wall, which are inhibitory to their growth. This is particularly true of the streptococcus. Wilkie demonstrated this by adding a few drops of bile to the culture medium which prevented the growth of the implanted streptococcus. This phenomenon probably accounts for the low incidence of positive cultures from both the gallbladder wall and the bile in acute cholecystitis.

COMPLICATIONS

The pathologic complications of acute cholecystitis are: suppurative cholecystitis, empyema, perforation with localized peritonitis and abscess formation, generalized peritonitis, subphrenic and subhepatic abscesses, pancreatitis, acute hepatitis, pylephlebitis, and suppurative calculous cholangitis.

That gangrene and perforation are the most frequent complications of acute cholecystitis is revealed by a review of the literature. Mentzer reported an incidence of 32 per cent of gangrene and perforation in a series of 134 cases. Judd and Phillips reported 12 per cent of perforation in 508 cases. Miller's incidence of perforation and gangrene in 200 cases was 30.7 per cent. In Heuer's collected series there was an incidence of gangrene in 20 per cent. The incidence of perforation of acute cholecystitis, according to Heuer, is comparable to the incidence of perforation of acute appendicitis. In a series of 593 cases of acute appendictis, gangrene and perforation occurred in 17.5 per cent. The incidence of gangrene and perforation occurring in acute cholecystitis during the same interval of admission of the acute appendicitis cases was 10.5 per cent. The etiologic factors in both are also similar. They are obstruction, distention, increased intralumenal pressure, interference with the vascular supply, and infection. Therefore the high incidence of gangrene and perforation of the gallbladder in acute cholecystitis is probably dependent upon vascular interference. This vascular inhibition, occurring first on the venous side resulting from pressure produced by edema, and also by intramural strangulation, is produced by an increase in the intracholecystic pressure. This venous stasis is invariably followed by infarction, hemorrhage, gangrene, infection, and perforation. Peritonitis is of common occurrence following perforation of the gallbladder, and in the majority of instances is localized, producing a pericholecystic abscess. Peritonitis is rarely of the generalized type occurring in only 0.59 per cent of Judd's series of 508 cases of acute cholecystitis.

Therefore localized peritonitis and pericholecystic abscess are the most common and important sequelae of perforation of the acute gallbladder. Localization of the peritonitis to the immediate area of the gallbladder is due to the fact that the omentum, transverse colon, duodenum, and liver are constantly in contact with the cholecyst. This pericholecystic peritonitis with or without abscess formation not infrequently spreads by continuity of tissues and also by the lymphatics to the subhepatic and subphrenic spaces, producing secondary abscesses in these areas. Pancreatitis, secondary to acute cholecystitis, is of frequent occurrence because of the intimate relationship between the lymphatics of the pancreas and the gallbladder. In Judd's series of 508 cases of acute cholecystitis definite involvement of the pancreas occurred in 15 per cent. Colp's study of 130 cases of acute cholecystitis at autopsy revealed only one case of acute pancreatitis. The pancreas, therefore, is involved only by a mild inflammatory process. The correct pathologic lesion in the majority of cases is a mild pancreatic lymphangitis with edema. However, some of the cases will reveal a high grade acute pancreatic necrosis.

One of the most serious associated primary pathologic states of acute cholecystitis is the presence of choledocholithiasis. In Colp's autopsy series of 130 cases of acute cholecystitis common duct stones were present in 10.7 per cent. In 300 consecutive cases of acute cholecystitis reported by Pennoyer, 7 per cent had choledocholithiasis. The seriousness of this associated lesion is of paramount importance because the common duct is obstructed, and bacteria rapidly invade the wall and the bile within the lumen of the common duct, producing a choledochitis. The infection rapidly extends into the hepatic bile radicles by continuity of tissue and the lymphatics, producing a suppurative hepatic cholangitis. The mortality in suppurative hepatic cholangitis is very high as evidenced by the 14 cases in Colp's series of 130 cases of acute cholecystitis. This complication is a late manifestation and is the end result of a progressive inflammation of the cholecyst. When the infection has involved the common duct, the portal vein not infrequently becomes implicated in the inflammatory process due to its close anatomic relationship. When pylephlebitis develops, the phlebitic process extends into the portal radicles of the liver producing suppurative hepatitis with multiple abscess. In Colp's series of 130 cases of acute cholecystitis, pylephlebitis occurred in 6 instances, or 4.6 per cent. Therefore, pylephlebitis, although not of frequent occurrence, will result in a mortality of almost 100 per cent.

For comprehensive review of subhepatic and subphrenic infections, pylephlebitis and liver abscess, the reader is referred to two excellent articles on subphrenic infections and liver abscess by Ochsner and DeBakey.

CLINICAL EXPRESSIONS

The clinical manifestations of an attack of acute cholecystitis are characterized by a sudden onset of severe pain, located beneath the subcostal arch on the right side. The pain is usually sharp and lancinating in character and frequently radiates towards the back and beneath the right scapula. The pain may or may not be intermittent in type. The pain in the severe forms of acute cholecystitis becomes continuous and progressive without relief. This is due to the sudden and rapid distention of the gallbladder by obstruction of the cystic duct. This obstruction is due to the impaction of a gall stone in the cystic duct in over 90 per cent of the cases. In the early or chemical inflammation of the gallbladder, the symptoms are the same as those produced by bacterial invasion, but are of a lesser degree. However, in a few cases the development of an acute pyogenic cholecystitis occurs as the primary lesion and the acute inflammation progresses very rapidly. It is this type of case that manifests profound clinical symptoms early in the course of the disease.

Tenderness and rigidity, next to pain, are the most frequent clinical manifestations. Tenderness occurred in 95 per cent and rigidity in 75 per cent of Kunath's series of 103 cases. The tenderness and rigidity also vary greatly in their degree of .elicitation. If the gallbladder is distended and acutely inflamed without exudation on the serosal surface, the pain on pressure over the gallbladder region is not marked when the patient is in the recumbent position. However, in the erect position, palpation over the gallbladder reveals marked tenderness, and if the pressure is increased, severe pain results. In this type of case, rigidity is almost negligible. Therefore, all patients with symptoms of acute cholecystitis should be examined in both the recumbent and erect positions. When pyogenic organisms invade the wall of the obstructed gallbladder, the inflammatory process rapidly extends beyond the confines of the gallbladder wall. The clinical manifestations reveal constant pain, marked increased tenderness, and rigidity. The upper abdomen is splinted especially on the right side and interference with normal respiratory movements occurs. This diminished excursion of the diaphragm on the right side is of great diagnostic importance.

The leukocytosis accompanying acute cholecystitis is also subjected to variations that are not in conformity with the degree of pathology present. In the non-bacterial type the leukocytosis is not marked, but as the bacteria invade the wall with an accompanying cellulitis, the leukocytes are in the majority of cases markedly increased. Some authors claim that a leukocytosis of over 15,000 is indicative of empyema of the gallbladder. The leukocytosis in Judd's series of 508 cases of acute cholecystitis ranged from 5,000 to 10,000. In four cases the leukocytosis was less than 5,000. The neutrophile percentage is more indicative of the severity of the inflammatory process within the gallbladder than is the total leukocyte count. This relationship of neutrophiles to total white count should be studied very closely and compared to the clinical manifestations, because the patient may have a severe, rapidly progressive acute cholecystitis and the total leukocyte count not be compatible with the clinical manifestations. Therefore the leukocyte count is not a reliable index to the severity of the disease.

The temperature is also subjected to variations depending upon the degree of inflammation present, whether chemical or bacterial as well as the amount of toxins absorbed. The temperature may range from 97° to 105°. The low or subnormal temperature is frequently seen at the beginning of the disease but is soon elevated to 100 or over depending upon the severity of the inflammatory process. Patients are frequently admitted to the wards with subnormal temperature, which is rapidly elevated to 100 to 105° within the first 24 hours. After the acute inflammatory process has subsided, patients may have a temperature that ranges from 98 to 100° and yet have an empyema of the gallbladder or a pericholecystic abscess. However, the average case of acute cholecystitis will have temperature that varies from 101 to 103°. If the temperature is constantly high, the complications usually present are, gangrene, empyema, pericholecystic abscess, and localized peritonitis.

Nausea and vomiting are early clinical manifestations of acute cholecystitis. In some of the cases it becomes progressive, and the patient has almost continuous vomiting. This is probably due to the severe pain, duodenal spasm, reversed peristalsis, and hypersecretion into the upper gastrointestinal tract. When the vomitus is copious and the vomiting attacks are frequent, there occurs a rapid change in the biochemistry of the blood. The blood chemistry then simulates that which is found in high intestinal obstruction. If this change in the blood chemistry is not ameliorated by appropriate measures, an alkalosis rapidly develops.

The pulse rate as a rule corresponds to the degree of inflammation and toxemia in the majority of cases. There is, of course, a variation which not infrequently denotes cardiac damage. As the majority of cases of acute cholecystitis occur in elderly individuals, a thorough study of the heart should be made. The not uncommon cardiac manifestations associated with and secondary to infections of the gallbladder are well known. Paroxysmal tachycardia is not infrequently associated with chronic cholecystitis, and in an acute attack of cholecystitis an attack of paroxysmal tachycardia may occur. Therefore, one must review the past cardiac history before giving too much credence to a very rapid pulse. However, in the final analysis, the pulse rate (as in the majority of acute infections within the abdominal cavity) is a very reliable index to the severity of the inflammatory process.

Therefore, the clinical manifestations of acute cholecystitis are those of an acute abdomen with signs and symptoms of an acute inflammatory process localizing in the upper right quadrant of the abdomen and with systemic reactions of toxemia, characterized by pain, tenderness, fever, vomiting, increasing pulse rate, leukocytosis, increased blood sedimentation time, and prostration.

DIAGNOSIS

If the attending physician has a thorough knowledge of the pathology of acute cholecystitis, the variations in the degree of the inflammatory reactions, the complications and their pathology, and the sequence of events in both, not only the diagnosis but the degree and progressiveness of the inflammatory state can be accurately determined in the majority of cases. The history is of great importance as regards the previous attacks of cholecystitis. However, in a small percentage of cases the acute attack may be the first one experienced by the patient. The history also determines the progress of the disease as the patient not infrequently has had several days of home treatment and does not seek hospitalization until complications have occurred. Therefore, at this time the clinical manifestations are not those of simple acute cholecystitis but are those of either empyema, gangrene, or peritonitis. The symptoms of the complications dominate the primary lesion to such a degree that errors in diagnosis are frequently made. This is due to the fact that the symptoms of the complications simulate very closely other acute abdominal diseases, such as acute perforation of gastric and duodenal ulcers, acute hemorrhagic pancreatitis, and high intestinal obstruction. It is not difficult to recognize these similar acute abdominal catastrophies if they are kept in mind when the patient is examined. A very careful and painstaking history and physical examination with evaluation of all the clinical and laboratory data will help to distinguish these clinical entities from acute cholecystitis.

Laboratory aids are of questionable value in corroborating the diagnosis of acute cholecystitis. However, the leukocyte count and the blood sedimentation rate are very important from the standpoint of determining the degree of the inflammatory reaction. According to Leidberg, there is a definite correlation between the clinicopathologic picture and the blood sedimentation rate. He found that the blood sedimentation rate rapidly increased as the inflammatory process progressed and decreased as the inflammation subsided. Also the blood sedimentation rate was higher in the severe case than in the mild form of acute cholecystitis. One is justified in comparing it to the blood sedimentation rate in acute pelvic inflammatory disease. In the latter condition, the blood sedimentation is used to determine the safe period of operation. It should also be applicable to cases of acute cholecystitis which have been treated conservatively. The x-ray is of great value from the standpoint of differential diagnosis, especially in ruptured peptic ulcers and acute intestinal obstruction. In cases of ruptured peptic ulcer, free air is found beneath the diaphragm in 70 to 95 per cent of the cases and is of great diagnostic importance. In high intestinal obstruction the x-ray will reveal gas and fluid levels within the lumen of the intestine. Visualization of the gallbladder by the Graham-Cole method is contraindicated in cases of acute cholecystitis.

Therefore, the sudden onset of severe pain in the upper right quadrant of the abdomen, colicky in type, which radiates to the shoulder, back, and scapula (stimulation of the phrenic and splanchnic nerves and the celiac ganglia) associated with tenderness, mild or severe, and rigidity of the upper right rectus and flat abdominal muscles, is certainly diagnostic of acute cholecystitis. Associated with these clinical manifestations and confirmatory are vomiting, fever, leukocytosis, rapid pulse, and interference with diaphragmatic excursion on the right side, with inability to inspire deeply when pressure is applied over the gallbladder region.

SURGICAL TREATMENT

The surgical treatment of acute cholecystitis has reached the same debatable state today as that regarding the treatment of chronic cholecystitis twenty years ago. However, today the majority of surgeons throughout the world perform cholecystectomies by preference for chronic disease of the gallbladder and the results justify a continuance of this procedure. The debatable question today regarding the surgical treatment of acute cholecystitis is not that of the technic but the time that the operation should be performed, i. e., the immediate operation, the delayed operation, the conservative treatment. This constitutes the three schools of treatment today. Miller, Stone and Owens, Judd, Heuer, Clute, and many others recommend that immediate cholecystectomy in acute cholecystitis is the operation of choice. That history repeats itself is certainly true as regards the immediate operation for acute cholecystitis.

In 1902 Moynihan advised and practiced immediate surgical intervention for gangrenous gallbladder and phlegmonous cholecystitis. The operation of choice was cholecystectomy. Babcock stated in 1915, "before 1912 gangrenous and suppurative gallbladders were removed but now they are drained under local anesthesia." He also stated, "the mortality resulting from cholecystectomy in chronic cholecystitis was less than cholecystotomy in the third stage of acute cholecystitis." Borelius in 1916 advocated immediate operation in the acute stage of acute cholecystitis and stated that following cholecystectomy the healing time is more rapid and that the operation was not more serious than drainage. Lunn in 1917 stated that 20 years ago he advocated immediate removal of the acutely inflamed gallbladder, especially the gangrenous type. He also stated that, "the infective inflammation is more serious and more important than cholelithiasis."

The mortality following cholecystectomy for acute cholecystitis in all of its inflammatory and gangrenous states was prohibitive ranging as high as 70 per cent. Therefore, cholecystectomy in the acute stage of cholecystitis fell into disfavor. Even today cholecystectomy performed in the presence of perforation and localized peritonitis results in a mortality from 11 to 58 per cent, the average being 46.7 per cent (Eliason and McLaughlin). Therefore, an attempt to reduce the high mortality has resulted in the recommendation by many surgeons that patients with acute cholecystitis should be operated upon immediately. Some go so far as to state that all of them should be operated upon immediately without regard to the time interval from the onset of the disease until the admission to the hospital. The teaching of immediate operation in all cases can lead only to disaster, because all cases of acute cholecystitis and its associated pathology cannot and should not be subjected to immediate operation. The cases must be individualized and studied very carefully and thoroughly in order to separate those in which the acute inflammatory reaction is confined within the walls of the gallbladder from those in which the infection has passed beyond the confines of the gallbladder and involves contiguous organs. It must be realized that it is not the acute cholecystitis *per se* that is responsible for the high mortality but the complications, the most frequent being gangrene of the gallbladder with perforation and localized peritonitis. This occurs in only about 20 per cent of all cases of acute cholecystitis. Therefore, immediate operation in the group is certainly fraught with danger, as the mortality will be very high.

The advantageous time to interfere surgically in acute cholecystitis is while the infection is beginning or is confined entirely within the walls of the gallbladder and before there has been extension to the serosa. If all patients with acute cholecystitis could be operated upon within the first few hours after the onset of the disease, having their gallbladder removed, the mortality would be comparable to the mortality of acute appendicitis when the appendix is removed within the first few hours after the onset. Thus the complications of empyema, gangrene, and perforation with peritonitis, either localized or spreading, would not occur. That these ideal conditions exist only in a few cases is due to the fact that the surgeon seldom sees the patient suffering from acute cholecystitis until many hours or even days have elapsed. Therefore, the majority of patients are recovering from the acute attack when first seen or they fall into the 15 to 20 per cent group in which the disease is of the progressive type.

I have divided the different stages of acute cholecystitis into the following groups from the standpoint of surgical intervention. The grouping is dependent entirely upon the intrinsic and extrinsic pathology.

1. Simple obstruction of the cystic duct.
2. Obstruction of the cystic duct with chemical cholecystic lymphangitis.
3. Obstruction of the cystic duct with infective cholecystitis.
4. Obstruction of the cystic duct with suppurative cholecystitis and empyema.
5. Obstruction of the cystic duct with gangrenous cholecystitis.

6. Obstruction of the cystic duct, with gangrenous cholecystitis, with perforation and localizing peritonitis and abscess, or spreading peritonitis.

7. Obstruction of the cystic duct with acute cholecystitis, with choledocholithiasis and jaundice.

As the grouping is an arbitrary one, the surgeon must individualize each case on its own merits aided by his surgical experience, skill, and judgment.

OPERATION

In groups 1, 2, 3, and 5, operation should be performed as soon as the patient can be prepared. This preparation usually takes from two to three hours and consists of restoring the water balance in the dehydrated by infusions of dextrose and saline and the restoration of the blood corpuscular elements in the anemic by blood transfusions. The surgical procedure of choice in groups 1, 2, 3, and 5 is cholecystectomy without drainage, provided the local conditions are not prohibitive of the technical procedure.

In groups 4, 6, and 7, careful analysis of the patient's general condition and the associated pathology as well as the heart, liver, and kidneys should be thoroughly investigated. Groups 4, 6, and 7, should be treated conservatively and watched most carefully by the attending surgeon. I believe that the majority of patients in groups 4, 6, and 7, if treated conservatively, will combat the infection and that the operation can be safely undertaken when the inflammatory reaction has subsided. The operation of choice in groups 4 and 6, after the subsidence of the acute inflammatory reaction, is cholecystectomy provided the conditions are ideal for dissection. However, the patient's safety should never be jeopardized by performing a cholecystectomy if the technical procedure is fraught with danger. If cholecystectomy cannot be performed with safety, one can use the procedure first advocated by Martin and extensively used by Estes. This operation is easily and rapidly performed and results in a low mortality. The operation consists of splitting the gallbladder into halves from the fundus to the cystic duct. The medial and lateral wings are removed. The small remnant left attached to the liver is then de-epithelialized by either the actual cautery or by chemical necrosis. Large rubber dam drains are inserted down to the cystic duct as well as into Morrison's pouch and the abdominal wound closed. However, if the inflammatory process is still active and the gallbladder is thoroughly walled off, simple drainage by cholecystostomy is indicated. When simple drainage is used, a second operation becomes necessary several months later in order that the gallbladder may be safely removed, as symptoms usually recur and persist in a large percentage of patients in whom the gallbladder has been drained.

The cases that belong to group 7 are the most serious of all the various types of inflammations of the gallbladder. In this group not only is there an acute inflammation of the gallbladder but a concomitant obstruction of the common duct. The patient is usually very toxic and deeply jaundiced. If the patients in this group have chills and fever, operation should be undertaken as soon as water balance can be restored and transfusion of whole blood given. When feasible, the surgical procedures should be cholecystectomy and choledochotomy with T-tube drainage, because the patient not only has an acute cholecystitis but an infective cholangitis as well. The mortality in this group will of necessity be rather high because the infection not only involves the extrabiliary tract, but also the intrahepatic biliary tree as well as the liver parenchyma.

The preoperative preparation in groups 1, 2, 3, and 5 consists of re-establishing the water balance with dextrose and saline infusions, and in the anemic and debilitated, transfusions of whole blood, the number depending upon the degree of anemia and the debilitation. In groups 4, 6, and 7, in which the patients have been treated conservatively, the preoperative preparation is most important. One must restore the patient as near the basal physiologic line as possible. The patient should have continuous gastric suction by the indwelling nasal duodenal catheter by Wangensteen's method, and a heat tent placed over the abdomen or an electric pad placed over the gallbladder region. Water balance and kidney function should be restored by infusions of dextrose and saline or dextrose and Ringer's solution. Transfusions of whole blood are most essential in this group because they rapidly restore and stimulate the combative powers, supply proteins, and increase the circulation of oxygen. To relieve pain morphine and atropine or nitroglycerine should be given subcutaneously. If the pain is very severe and is unrelieved by the above medication, the right splanchnic nerves may be blocked with 1 per cent novocain. The patients in group 7, who have acute cholecystitis with jaundice in addition to the above measures, should have the bleeding time by Ivy's method as well as the prothrombin time to establish the probability of postoperative hemorrhage. Additional medication consists of calcium intravenously, bile salts, viosterol in large doses, vitamin K by mouth, and liver extract by hypodermic injection, the liver extract being given every day for several doses. The blood sedimentation rate should be determined because it offers an index to the progressiveness or regressiveness of the infection.

POSTOPERATIVE CARE

The postoperative treatment is the same for all groups with additional medication for group 7. Following operations upon the gallbladder there results a physiologic and traumatic ileus of the duodenum and upper gastrointestinal tract. Unless this condition is relieved, duodenal regurgitation and vomiting occur which persist for varying periods of time. The straining produced by retching and vomiting increases the pain in the abdominal wound, which in turn decreases the respiratory movements of the diaphragm. This facilitates and encourages bronchial stasis, increasing the incidence of postoperative pulmonary complications. Therefore, continuous gastric suction by the Wangensteen method is used until pyloric balance has been established. The restoration of pyloric balance requires several days in the average case. Infusions of dextrose in Ringer's solution, or dextrose with Hartman's, 3,000 to 4,000 c.c. per 24 hours, should be given for 36 to 48 hours or until the patient is obtaining the required amount of fluid by mouth. Blood transfusions of unmodified blood are given immediately after the operation and repeated as often as indicated. In some of the cases it will be necessary to give four to five transfusions depending upon the general reaction and the tendency to bleeding. All the transfusions in our clinic are given by the DeBakey method. If the Wangensteen suction is functioning correctly, water may be given by mouth. This quenches the patient's thirst and gives a sense of well being, as well as determines the return of normal pyloric balance. A heat tent is applied over the abdomen or an electric pad is applied over the gallbladder region and upper abdomen. Morphine sulphate ¼ grain is given by hypodermic every four hours for the first 36 to 48 hours. This relieves the patient's pain and maintains intestinal tone. If spasm of the ductal system occurs following the administration of morphine, nitroglycerine in 1/100 grain doses can be given either by mouth or subcutaneously.

As soon as pyloric balance is established, the patient is allowed small amounts of tap water. If this is tolerated, the tap water is supplemented by hot unsweetened tea and fat free broth. This is maintained for 24 to 36 hours when soft diet is allowed. When soft diet is taken, one ounce of mineral oil is given night and morning until the patient leaves the hospital. Enemata and flushes are contraindicated as they only increase the discomfort of the patient without benefit to the gastrointestinal tract. In the jaundiced group, in addition to the above, large doses of dextrose are required, and at times it becomes necessary to administer the dextrose in 50 per cent solution in quantities of 100 to 200 c.c. every six to eight hours. Also large amounts of saline solution as well as the electrolytes of the blood are necessary, because there is a tremendous loss by biliary drainage. Transfusions of whole blood are given as frequently as indicated. Bile salts, viosterol, calcium gluconate, liver extract, and vitamin K should be continued over from the preoperative preparation of the jaundiced cases. Intranasal oxygen therapy is frequently given postoperatively.

CONCLUSIONS

1. The etiology of acute cholecystitis is reviewed with a division of the etiology into three stages: chemical, mechanical, and bacterial. The three stages blend into each other and differ only in degree.

2. The precipitating factors are obstruction of the cystic duct by spasm of the sphincter of Oddi, and spasm of the duodenum, the presence of accessory ducts and vessels, and gall stones, the latter predominating to the extent of 85 to 90 per cent.

3. The inflammatory reactions are divided into the following stages: acute chemical cholecystic lymphangitis, acute bacterial suppurative cholecystitis, and gangrenous cholecystitis associated with and without cholelithiasis. Cholelithiasis occurs in 85 to 90 per cent of the cases of acute cholecystitis.

4. The complications of acute cholecystitis are empyema, gangrenous cholecystitis with rupture (20 per cent) producing localized peritonitis with abscess formation or general peritonitis, acute pancreatitis, subphrenic and subhepatic abscesses, pylephlebitis, and choledocholithiasis with jaundice and suppurative cholangitis.

5. The signs and symptoms are those of an acute abdomen with the inflammatory process localizing in the upper right quadrant of the abdomen. Associated are pain, rigidity of the abdominal muscles, vomiting, fever, rapid pulse, leukocytosis, and an increase in the blood sedimentation time.

6. The clinical and laboratory findings are not always indicative of the severity of the pathology present in the gallbladder.

7. The various stages of acute cholecystitis have been arbitrarily divided into seven groups from the standpoint of treatment. Groups 1, 2, 3, and 5 should be operated upon immediately and the gallbladder removed. Groups 4, 6, and 7 should have active conservative treatment until the combative powers of the patient have been restored, and the patient returned to the normal basal physiologic line.

8. Transfusion and dextrose solutions intravenously are extensively used preoperatively and postoperatively. The indwelling duodenal catheter with continuous suction is routinely used postoperatively. Oxygen is also given freely postoperatively by the intranasal route.

9. In cases complicated by jaundice, transfusion and infusions of dextrose in 5 and 50 per cent solutions intravenously, vitamins D and K, calcium gluconate, bile salts, and liver extract parenterally, are given freely preoperatively and postoperatively.

10. Early recognition and early operation without delay will result in a marked decrease in the incidence of complications and maintain a low mortality and morbidity.

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DISCUSSION

Dr. Howard R. Mahorner (New Orleans): Dr. Gage has presented, in a very comprehensive manner, the most recent advances in the treatment of cholecystitis. This presentation demonstrates, among other things, that even generally accepted concepts in the management of certain diseases should be subjected to repeated investigation from a clinical and experimental standpoint. There are four recently proved facts that, from a theoretic view, make immediate operation at the onset of acute cholecystitis the method of choice. These are: First, the pathologic picture which according to many pathologists is not that of a typical inflammation with polymorphonuclear leukocytes infiltration; second, the absence of bacteria, especially in the early stages; third, the obstruction by stones found in 98 per cent of the cases subjected to immediate operation; fourth, such experimental work as that of Mann, and Aronhson and Andrews showing that intravenous injection of certain substances will produce cholecystitis typical of that found in human beings. Practical experience showing a mortality of 3.5 per cent to 4 per cent in cases of acute cholecystitis subjected to immediate surgical intervention seems to bear out this theoretic conclusion.

If surgical mortality for immediate operation is 3.5 per cent what are the internists going to say about the conservative management of these cases in which they offer a mortality of 3 per cent in a large number of cases? The answer comes in the subsequent course of the 97 other patients who recovered from the conservative management. Many patients are subjected to operation of necessity later and that group will have a mortality which will raise that of the conservative method of management to from six to ten per cent.

Not only in acute cholecystitis is there an initial safe period of 48 hours in which the patient may be operated on to advantage with relative safety, but there follows a danger period of from five to seven days in which bacterial infection is at its height and in which operation is attended with an extremely high mortality. This period of relative safety followed by a period of danger is true for many other diseases, notably acute appendicitis and acute hematogenous osteomyelitis.

Dr. P. B. Salatich (New Orleans): I believe that conservatism should be practiced whenever possible before operation. If a patient has an acute gallbladder, I do not think it is good surgery to operate immediately. I think, if this acute condition is allowed to cool off, patient is built up, and the liver taken care of, the end results will be better than by immediate operation.

With acute gallbladder, I make it a rule to culture all of my gallbladder cases. It is surprising the different kinds of bacteria that are found in chronic gallbladder disease. If bacteria are found in chronic gallbladder cases, there may be an acute exacerbation from the existing infection, that is, in the gallbladder itself. Personally I would rather let a patient remain for a while, treating the patient, relieving the acute symptoms, preparing the liver, and then operate. I believe that the cure is then permanent. Sometimes a gallbladder is taken out and the patient says she does not feel any better than before the operation. A lot is due to the after treatment. Patients should be just as careful in their diet for several months after operation as when you were preparing them for operation.

Dr. J. A. Hendrick (Shreveport): I think if we get these cases and operate early, we save the liver a lot of damage that will occur if the condition is allowed to exist. I think an important thing is to operate early. The gallbladder should be taken out as quickly as possible. When the stone is taken out the gallbladder separates from the liver easily. I do not think it is a good time to cover up the raw surface. Put in a drain, which can be done in the average case, if not too heavy, in about twenty-five minutes, and give glucose plus dehydration. I think we will have a mortality around three per cent or less and save a lot of liver damage, instead of treating cases until the liver becomes permanently damaged and then operate later.

Dr. O. C. Rigby (Shreveport): I would like to ask Dr. Gage two questions. One is, if we decide to wait any length of time after the initial attack of gallbladder disease, what effect, if any, has he found upon the heart some months or years later? Moynihan, called attention to heart involvement years ago, and made the statement that you often have a diseased heart muscle following chronic gallbladder disease.

Another question, which I have not seen very much about in literature, is gallbladder disease associated with chronic recto-cecal appendix. I would like to know if in his experience he has noticed that condition, and whether or not he thinks it is a diseased gallbladder due to the appendix or whether the diseased appendix is due to gallbladder disease?

Dr. Mims Gage (In conclusion): In reference to Dr. Salatich's low percentage of positive cultures, I wish to state that Dr. Illingworth used a special method to obtain his high percentage of positive cultures. He washed the gallbladder wall in saline then exposed the tissue to be cultured to ultraviolet radiation for one minute. This killed the gross contaminators, the washing removed the bile, and his percentage of positive cultures from chronic cholecystitis was 62 per cent.

I agree with what Dr. Mahorner has said. It was impossible due to limitation of time, for me adequately to discuss the early, delayed, and conservative treatment. A very full discussion will appear in the paper. I emphatically stated that all patients with acute cholecystitis must be individualized and thoroughly prepared before any form of surgical treatment is undertaken.

In answer to Dr. Rigby's question regarding the heart. In cases of chronic cholecystitis, cardiac irregularities are not infrequently found. Paroxysmal tachycardia is one form of cardiac irregularity found associated with chronic cholecystitis and is frequently relieved following cholecystectomy. I would advise that after recovery from an attack of acute cholecystitis, the patient should be encouraged to have the gallbladder removed within six to eight months or earlier. Chronic appendicitis is associated with chronic cholecystitis in 20 to 30 per cent.

ERYTHROBLASTS IN THE CHORIONIC BLOOD VESSELS OF HUMAN EMBRYOS

THEIR IMPORTANCE IN ESTIMATING THE DURATION OF PREGNANCY*

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AND
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NEW ORLEANS

The observations of Ryerson and Sanes, which have been confirmed by Ohringer, have established the fact that erythroblasts predominate in the blood vessels of the chorionic villi of the human embryo, rapidly disappear toward the end of the third month of pregnancy, and are practically absent in the chorionic blood vessels of the fetus. These studies have considerable theoretic interest in that they open a new field for the study of the development of red blood cells, and the factors leading to their maturation and preventing their maturation, as in erythroblastosis fetalis. They are also of practical importance in determining the approximate duration of pregnancy, as the investigation to be reported herewith makes clear.

MATERIALS AND METHODS

From routine microscopic preparations of uterine scrapings containing placental tissue obtained by curettage, 38 specimens were selected in which the blood vessels of the chorionic villi contained nucleated red blood cells. Thirty tubal pregnancies removed at operation were also selected, and 12 embryos with cords, placentas and membranes. All the material was fixed in 10 per cent formalin, embedded in paraffin, cut, and stained with hematoxylin and eosin. The proportion of nucleated and non-nucleated red blood cells in the chorionic blood vessels of each specimen was then determined.

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From the clinical history a tabulation was made of all the data available in each case relevant to the duration of pregnancy. These data included the date of the onset of the last menstrual period, the type of the menstrual cycle, the usual duration of the period, the date of the termination of the pregnancy, and the length of the embryo. The maximum duration of pregnancy was estimated in each case by subtracting the number of days plus one of the usual duration of menstruation from the number of days elapsed between the onset of the last menstrual period and the operation. When the information was stated in general terms, such as "missed one period," or the type of the menstrual cycle was not recorded, the maximum duration of pregnancy was estimated on the basis of a 28-day cycle with five days' duration of the period. A variation of about 10 days in either direction should be allowed in all instances.

OBSERVATIONS

In eight of the 38 specimens of uterine scrapings obtained by curettage, the chorionic blood vessels contained less than 100 per cent erythroblasts. The estimated maximum duration of pregnancy in these eight cases varied between 45 and 84 days, with an average of 65 days. In the other 30 specimens the erythroblast content of the chorionic blood vessels was 100 per cent. The estimated maximum duration of pregnancy varied between 27 and 79 days, with an average duration of 51 days (table I).

TABLE 1

PLACENTAL TISSUES

Patient	Age and race	Onset of last menst. period	Type of cycle	Termination of pregnancy	Duration of pregnancy. Maximum	Erythroblast : erythrocyte
P-1 S-2003	28 W	11-20-35	regular	12-23-35	27	100 :0
P-2 34-6012	32 C	7-27-34	28 :4-5	9- 1-34	30	100 :0
P-3 35-2667	32 W	3-27-35		5- 6-35	34	100 :0
P-4 37- 26	26 W	11-23-36	28 :4-5	1-4-37	36	100 :0
P-5 33-1777	19 W	2-20-33		4- 6-33	39	100 :0
P-6 S-2973	32 W	1-26-36	30 :4-5	3-14-36	41	100 :0
P-7 37-4157	23 W	6- 1-37	30 :4-6	7-20-37	42	100 :0
P-8 37-5047	30 W	7- 8-37	:7	8-27-37	42	100 :0
P-9 S- 628	37 W	7-16-35	28 :5	9- 4-35	44	100 :0
P-10 S-2464	31 W	12-14-35	21 :4	2- 1-36	44	100 :0
P-11 S-1976	27 W	11- 1-35	29 :3-5	12-21-35	44	100 :0
P-12 S-1143	36 W	8-29-35	28 :3-4	10-18-35	45	100 :0
P-13 34-7936	29 W	10- 2-34	28 :2-6	11-23-34	45	100 :0
P-14 34-6450	29 W	7-29-34	28 :5	9-19-34	46	100 :0
P-15 S- 792	37 W	7-28-35	28 :4	9-18-35	47	100 :0
P-16 37-5653	28 C	7-30-37	28 :5	9-23-37	49	100 :0
P-17 33-5101	30 W	7- 4-33	:2-5	8-29-33	50	100 :0
P-18 S-2984	37 W	1-15-36	regular	3-16-36	54	100 :0
P-19 34-5672	29 W	6-20-34	28 :2-3	8-20-34	57	100 :0
P-20 37-7173	23 W	10- 8-37	30 :5	12-15-37	62	100 :0
P-21 34-5607	23 W			8-18-34		100 :0
P-22 S- 574	37 W			8-29-35		100 :0
P-23 37-1970	40 W			4-16-37		50 :0
P-24 34-5794	47 W	6-10-34	30 :	8-23-34	68	100 :0
P-25 34-1062	17 W	12-10-33	28 :5-6	2-23-34	68	100 :0
P-26 S- 490	33 W	6- 7-35	28 :3-4	8-21-35	69	100 :0
P-27 36-1756	22 W	1- 3-36		3-20-36	70	100 :0
P-28 S-3026	26 W	12-31-35	28 :3	3-19-36	74	100 :0
P-29 33-2900	26 W	3- 8-33		5-31-33	78	50 :0
P-30 34- 631	39 C	11-10-33	28 :3	2- 1-34	79	50 :0
P-31 S-1276	27 W	8- 1-35	28 :3-4	10-29-35	84	95 :5
P-32 34-7786	26 W			11-17-34		88 :12
P-33 S-1499	41 W	9- 1-35	28 :6	11-14-35	67	80 :20
P-34 34-6929	44 W	7-22-34	28 :5	10-10-34	74	80 :20
P-35 34-8345	30 W	10-27-34	30 :4-6	12-20-34	47	75 :25
P-36 34- 71	40 W	11-17-33	28 :3-4	1- 6-34	45	66 :34
P-37 S-2092	41 W	10-15-35	21 :7	1- 2-36	71	34 :66
P-38 34-4582	32 C	4- -34	30 :4-12	7-15-34		5 :95

In the group of 30 tubal pregnancies, the erythroblast content of the chorionic blood vessels was 3 per cent in one case, and the length of the fetus was 100 mm. In the other 29 cases the erythroblast content of the chorionic blood vessels was 100 per cent. The maximum duration of pregnancy was known in 18 of these cases and varied between 26 and 61 days, with an average of 44 days. The length of the embryo was known in 10 instances and varied between 13 and 30 mm. (table II).

TABLE 2
TUBAL PREGNANCIES

	Patient	Age and race	Onset of last menst. period	Type of cycle	Termination of pregnancy	Duration of pregnancy. Maximum	Erythroblast : erythrocyte	Length of embryo. mm.
T-1	35-3361	38 C	5- 1-35		6- 2-35	26	100 :0	13
T-2	37-3196	21 C	5- 7-37	:3	6-12-37	32	100 :0	
T-3	36-8017	23 W	11-20-36	22 :4	12-27-36	32	100 :0	13
T-4	36-2449	36 C	3-23-36	28 :4-5	5- 2-36	34	60 :0	
T-5	35-1966	34 W	2-17-35	28 :3	4- 2-35	40	100 :0	
T-6	35-3546	39 W	4-19-35	28 :5-6	6- 8-35	41	100 :0	
T-7	37-2806	26 C	4- 7-37		5-26-37	43	50 :0	
T-8	35- 874	24 C	12-25-34	28 :4	2-12-35	44	100 :0	
T-9	S-1060	40 W	8-21-35		10-11-35	45	100 :0	13
T-10	37-7267	32 W	11-12-37	21 :	12-24-37	37	100 :0	14
T-11	36- 980	28 W	12-23-35	28 :4-5	2-15-36	48	50 :0	
T-12	37-4892	25 W	6-27-37	28 :3	8-20-37	50	100 :0	18
T-13	36-5762	31 W	7- 1-36		8-26-36	50	100 :0	
T-14	36-1034	36 C			2-20-36		100 :0	20
T-15	34-2331	23 C	2-17-34	28 :5-9	4-20-34	52	100 :0	20
T-16	33-1542	28 W	1-28-33	:2-3	3-25-33	52	100 :0	
T-17	S-3262	34 W	1-27-36		4- 4-36	61	100 :0	20
T-18	36- 376	23 W					100 :0	25
T-19	36-4168	35 W	5-14-36		7- 9-36	50	100 :0	30
T-20	37-4463	25 C			7-31-37		100 :0	
T-21	37-3541	28 C			6-25-37		100 :0	
T-22	34-8449	36 W		28 :2-4	12-30-34		100 :0	
T-23	35-6951	37 W			10-18-35		100 :0	
T-24	33-4337	30 C			7-27-33		50 :0	
T-25	33-6285	31 C			10-21-33		100 :0	
T-26	OS-3712	25 W					100 :0	
T-27	G-3971	33 W					100 :0	
T-28	37-4244	30 C	5-19-37		7-24-37	60	100 :0	
T-29	34-1461	26 W	1- -34	28 :3-5	3-15-34		100 :0	
T-30	36-3558	24 C			6-15-36		3 :97	100

In the group of 12 embryos with cords, placentas and membranes, the erythroblast content of the chorionic blood vessels was 100 per cent (figs. 1 and 2), in all but one

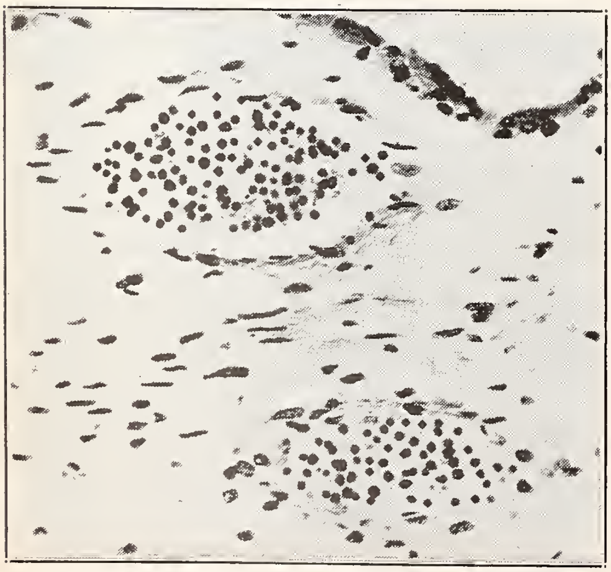

Fig. 1. Chorionic villus from the placenta of a 12 mm. embryo (E-9). The chorionic capillaries contain only nucleated red blood cells.

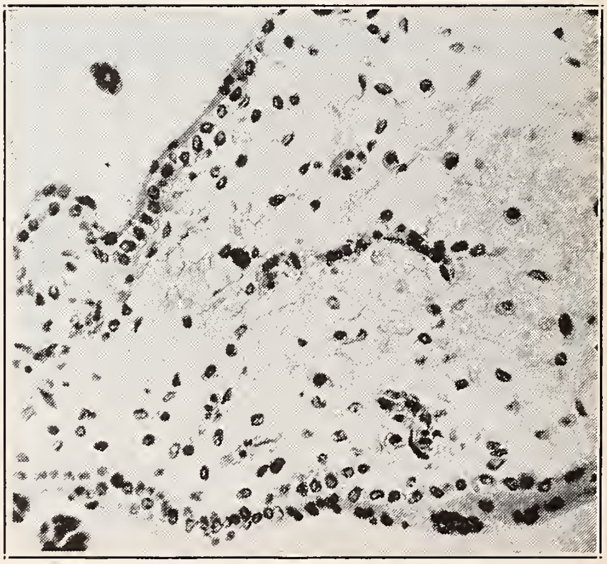

Fig. 2. Chorionic villus from the placenta of a 30 mm. embryo (E-9). The chorionic capillaries contain only nucleated red blood cells.

instance. The estimated maximum duration of pregnancy varied between 34 and 79 days, with an average of 50 days. The length of the embryo was known in 10 instances and varied between 10 and 45 mm. (table III).

TABLE 3

EMBRYOS WITH CORD, PLACENTA, AND MEMBRANES

Patient		Age and race	Onset of last menst. period	Type of cycle	Termination of pregnancy	Duration of pregnancy. Maximum	Erythroblast : erythrocyte	Length of embryo. mm.
E-1	34-3646	28 W		:8-12	6-11-34		100 :0	small
E-2	S-1802	34 W	10-20-35	28 :5	12- 7-35	42	100 :0	10
E-3	37-7298	26 C	11- 9-37	28-35 :4	12-29-37	45	100 :0	12
E-4	S-2156	39 W	11-15-35	26 :6-7	1- 7-36	45	100 :0	18
E-5	S-2507	35 W	12-16-35	28 :5	2- 5-36	45	100 :0	20
E-6	S-2276	43 W	11-14-35	21 :10	1-16-36	52	100 :0	25
E-7	37-3815	36 C		30 :3	7- 8-37		100 :0	28
E-8	S-3119	41 W	2-15-36	21 :3	3-25-36	34	100 :0	30
E-9	S-2626	40 W	12-25-35	26 :3	2-14-36	47	100 :0	30
E-10	S-2686	29 W		14 :2	2-18-36		100 :0	37
E-11	S-1415	39 W	8-31-35	28 :5	11- 7-35	62	100 :0	45
E-12	35-2954	21 W	2-20-35		5-16-35	79	65 :35	

From the observations made on these three groups of cases it is evident that erythrocytes first appear in the chorionic blood vessels early in the third month of pregnancy and increase to over 90 per cent by the end of the same month.

COMMENT

In the course of the selection of the material studied there was ample opportunity to establish the fact that the blood vessels of the chorionic villi of the fetus contain practically no nucleated red blood cells. The group of tubal pregnancies was chosen for study because gestation in this condition usually terminates before the embryonic stage is ended. Proof as to the duration of pregnancy was conclusive in the cases in which the length of the embryo or fetus was known.

Our observations on these 80 specimens further support the view that the approximate duration of pregnancy can be determined objectively on the basis of the fact that nucleated red blood cells are present in the chorionic blood vessels of the human embryo, and absent in those of the fetus.

SUMMARY

The erythroblast content of the chorionic blood vessels was studied in 80 specimens, consisting of 38 uterine scrapings containing placental tissue, 30 tubal pregnancies, and 12 embryos with cords, placentas and membranes. In 70 specimens the chorionic blood vessels contained only nucleated red blood cells (erythroblasts) and the estimated maximum duration of pregnancy in these cases was two months or less. In the other 10 specimens the chorionic blood vessels contained 90 per cent or more of nonnucleated red blood cells (erythrocytes) and the estimated maximum duration of the pregnancy in these cases was between the second and third months. These observations both confirm and elaborate the observations of Ryerson and Sanes and of Ohringer to the effect that erythroblasts predominate in the blood vessels of the chorionic villi of the human embryo, rapidly disappear toward the end of the third month of pregnancy, and are practically absent in the chorionic blood vessels of the fetus.

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MEDICINE UNDER THE NEW DEAL

Mr. H. L. Mencken, with his customary clever and often satirical pen, pictures the position of doctors were they to be socialized and regimented and put under lay authority. He writes that the doctors first would be employed by lay governmental organizations, then formed into staffs and finally put under non-medical superiors to be hired out to those who subscribe to membership in the organization. If the subscriber pays up, professional services go to him and the monies to the organization. The organization in this sense is the collector of taxes, pays the doctor what it wants and then the physician has to obey whatever he is told to do because he has become a hired man. Patients are not his, they belong to the association. The doctor may be fired as well as hired. Does he have a controversy with the patient or does the patient think that he is not being treated properly he may complain and then the physican will be scolded or even more severely reprimanded, possibly he may be fined. If the patient's family thinks the patient is not recovering sufficiently promptly, if they feel that the man with lobar pneumonia should have had his crisis on the seventh and not the ninth day, or if they feel that the typhoid fever patient should not have had a hemorrhage or if it is their belief that an inoperable cancer should be operated upon, then the doctor will again be reported and again be scolded by the people who are bossing him and who do not know anything about medicine; of course the customer is always right!

This would be a fine state of affairs in a profession which has always given competent and conscientious service. The profession would no longer be a profession, anything but. The physician would become a hired man and his professional status would slowly sink into a sea of muck and mire bound with red tape, to die a horrible professional death.

If the lawyers of the New Deal are anxious to deprofessionalize medicine, why do they not attack their own profession? Efforts have been made to do this in the past but every decent lawyer in America has opposed such a step violently and has even gone into court to prevent it. The law profession realizes that the practice of law by corporations, associations and organizations has deep seated and very real objections. They demur in being organized into gangs controlled by laymen and having their services retailed. Cannot the brilliant advocates of the New Deal who are attempting to bring out legislation which would be destructive to the professional status of the doctor realize from their own feelings about the profession of law that both these two great professions would function more efficiently, more effectively and more ably in an independent category than if they were collected together, ruled by a few people who knew nothing about the historical significance of the great professions and who would ultimately destroy them.

THOUGHTS ON GALL STONES

When a well known surgeon who has had extensive experience reviews his knowledge of a subject, some interesting facts may be brought out. The distinguished surgeon to H. M. the King, Sir Lancelot Barrington-Ward* in the Cressy Memorial Lecture records some of his observations concerning gall stones and the patients having them. Many of the remarks that he has to make are well known, for example that females predominated and they tend to be fat and have had children. It is interesting that males who have calculus cholecystitis usually tend to be thin. Gall stones are by no means uncommon in children. A case of a small girl, aged 9, whose gallbladder had stones is recounted and similarly that of a boy of 7 years of age with a one-half inch stone in his common duct.

The expressions of gall stones vary. Often they are found postmortem, never having produced symptoms and yet on the other hand they may be responsible for excruciating suffering and constant ill health. As a matter of fact pain was the chief symptom in 81 per cent of his cases. Indigestion alone was noted in 10 per cent of patients and in 2 per cent there was a symptomless tumor. The colic shows a strange variability in location; in most instances it is referred to the right hypochondrium and radiates to the right shoulder. At times it is localized in the epigastrium, occasionally in the back and rarely the upper abdomen in general. The physical sign of moment was tenderness in 75 per cent of the patients.

This distinguished surgeon notes a finding which is causing increased interest in the United States, to wit, the relationship of organic heart disease to cholecystitis and cholelithiasis. One of his patients was outstanding in this connection, in that removal of a diseased gallbladder was followed by restoration of a fibrillating heart to normal rhythm and material benefit to this organ.

It is noted that most medical men do not look with favor on operation for gall stones. This attitude is erroneous according to this author. A calculus in the common bile duct is a frequent complication of gall stones and is a serious operative condition, particularly if jaundice is produced. Consequently the mortality from this operation if high. If the gall stones were removed before this complication took place operation could be done with a very low mortality risk.

The operative procedures will not be presented here although it should be noted in passing that during the course of an operation always the common duct should be palpated and a stone, if lying there, should be removed. A stone in the common duct produces quite typical symptoms, the severe colic, the back pain, the chills, jaundice, are too well known to be dilated upon. Once in a while there occurs neither colic nor jaundice and merely indigestion of a duodenal type.

In regard to obstructive jaundice, which may be a complication, he states that this can be cured or relieved by operation. Unfortunately this eminent writer does not tell how obstructive icterus may be differentiated from catarrhal jaundice except by its duration. Unfortunate is the patient who is operated on for jaundice which is thought to be obstructive and which turns out to be infectious or catarrhal.

A rather long paragraph is devoted to whether or not to operate upon a patient who has an acute cholecystitis. One school maintains that the condiiton should be op-

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Barrington-Ward, Sir Lancelot: Gall-stones: Ten years' surgical experience, Brit. Med. J., March 4, 1939, p. 431.

erated upon at once for fear of the development of peritonitis, gangrene or perforation and compares acute choyecystitis to acute appendicitis. The school to which Sir Lancelot belongs believes that the inflamed gallbladder cannot be compared to the appendix. The gallbladder has an adequate blood supply and is in close relation to the omentum. If operation is performed, only drainage can be done and a subsequent operation will usually be necessary. For this reason he believes that the patient with acute cholecystitis should be treated expectantly, watched carefully and if there is deterioration of general health then operation is carried out.

The deductions from this series of cases are that on the whole the picture of gall stones is readily recognized, uncomplicated cases can be treated with safety but in order to avoid the late complications which materially raise the mortality there should be early resource to surgery.

THE EFFICACY OF BLOOD BANKS

It has become a very generally accepted procedure throughout these United States in large medical centers to preserve citrated blood to be used when suitable donors are not available or when there is an emergency with immediate need of this body fluid. These so-called "blood banks" have proved their value in the treatment of traumatic hemorrhage and of shock. In these conditions it is largely a question of replacing blood and bringing up the blood volume to approximate normality. On the other hand, transfusion nowadays is extensively employed in the treatment of almost every type of infection of severity and of long duration. The question has been mooted as to the value of preserved citrated blood in the treatment of acute and chronic infections. Kolmer*, in an attempt to elucidate this problem, reports on some very interesting studies that he has recently made. He starts with the assumption that blood is not given in septic states simply to combat a secondary anemia but that the real value of transfusion is to furnish specific and non-specific immune substances from the blood of the donor. In addition to this the leukocytes of fresh blood may have a therapeutic purpose; likewise in hemorrhagic states the platelets presumably have an extremely important role. The whole problem as he sees it is whether or not the citrated blood contains immune bodies, functionally active erythrocytes capable of carrying on internal respiration, and functionally effective platelets.

He studied the effect of sodium citrate on complement, on the bactericidal activity of preserved blood, on the phagocytic activity and on the cellular elements of preserved blood. It is not necessary to recount these studies, largely immunologic and bacteriologic in character. Suffice it to record some of the results and conclusions of this eminent investigator and immunologist who incidentally states that fresh citrated human blood is just as efficacious as whole blood by direct transfusion. He does not believe that the sodium citrate occasions deleterious changes quickly but it takes a short period of time to bring this about.

Kolmer states, in summarizing his experiments, that the bactericidal activity of normal citrated human blood kept at 4°-6° C. was decreased after being kept for seven to twenty-one days. The phagocytic activity of the neutrophils of the preserved blood was definitely reduced within 72 hours after obtaining the blood, markedly so within five days and totally devoid of phagocytic activity after the seventh day of preservation. The red cells within forty-eight hours showed evidence of dehemoglobination and progressive degenerative changes up to two weeks when at least 30 per cent of these cells were abnormal. The polymorphonuclear cells began to disintegrate and to be reduced in number within twenty-four hours after collection, which changes progressed up to the length of time the experiment was carried out, namely fourteen days.

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*Kolmer, John A.: Preserved citrated blood "banks" in relation to transfusion in the treatment of disease with special reference to the immunologic aspects, Am. J. Med. Sci., 197:442, 1939.

The platelets were clumped in a short time after citrating the blood, at the end of forty-eight hours they were extremely rare and after five days apparently none remained. He concluded from this study briefly summarized above that while the citrated human blood is useful in the treatment of acute hemorrhage and shock, it is decidedly inadvisable to use this type of preserved blood kept longer than two or three days in order to combat anemia, infections or the blood dyscrasias.

HOSPITAL STAFF TRANSACTIONS AND CLINICAL MEETINGS

HUTCHINSON MEMORIAL CLINIC

New Orleans

Scientific Session conducted by the Department of Otolaryngology, Dr. F. E. LeJeune presiding.

Osteomyelitis of the Frontal Bone with Brain Abscess Following an Acute Frontal Sinus—Case Report (Dr. M. G. Lynch, Department of Otolaryngology): It is unusual in this part of the country to see many cases of osteomyelitis of the frontal bone and for this reason as well as for the interesting neurologic results, I am presenting it.

This is a case report of a white girl, 19 years old, who was admitted to the hospital in a semicomatose condition. The history obtained from the mother was that three weeks prior to admission, she developed an acute cold which was quite severe. Four days following the onset of this cold she went riding in an open car in the night air and, while riding, the car stopped suddenly and she struck her head. Four days later she developed an acute frontal headache which increased to such an extent that all drugs available to her gave no relief and her local physician was called. He gave her morphine for a period of four days, with only temporary relief. After the third day, she began to have nausea and vomiting, he, thinking it was due to the morphine, let her go a day longer when she became semicomatose and was then sent into the hospital.

She was admitted in this condition complaining of severe headache and persistent nausea and vomiting. General examination revealed a well developed and well nourished white girl complaining so much of pain that she could answer questions only vaguely and was aroused with difficulty. Her temperature was 104° with a slow pulse. On local examination, the right side of her nose was found to be filled with thick creamy pus which appeared beneath the middle turbinate as fast as it could be removed. The right upper eyelid was markedly edematous and this edema extended to within an inch of the hair line. There was marked tenderness over the frontal sinus and over the frontal bone. Neurologic examination gave no positive findings except the eyegrounds which showed a choking of four diopters of the right disc and two of the left. Lumbar puncture, except for greatly increased pressure, was normal. A tentative diagnosis was made of acute frontal sinusitis, osteomyelitis of the frontal bone and either extradural or brain abscess. The osteomyelitis and frontal sinusitis was confirmed by x-ray.

External frontal operation was done with an incision extending directly across both eyebrows, then from the lateral extremities of the eyebrows to the temporoparietal suture line. This entire flap was turned back and the anterior posterior walls and the floor of the frontal were removed. The entire frontal portion as well as three-fourths of an inch of the parietal bone was removed en masse by means of trephine openings and then connecting these with a Gigley saw. When this cap of bone was removed, a large extradural abscess was found. When the surface of the dura was cleaned, a lead was found opposite the posterior wall of the right frontal sinus and a brain abscess was opened in the right frontal lobe. This abscess had its posterior wall seven and a half centimeters from the surface of the brain.

These cases have been treated in one of three ways, either by packing with iodoform gauze, drainage by means of a rubber tube, or by means of the Mosher basket. In those patients whom I have had occasion to see and those I have treated myself, the best results have been obtained with the Mosher basket. In the first place, the wound remains open wide so that there is adequate drainage, and, in the second place, granulations and debris can be cleaned every day by curetting the wire. As the abscess heals, the drain is gradually pushed to the surface so that there is no danger of pocket formation as one can see at all times the bottom of the cavity.

This case was treated in this manner and the brain was allowed to herniate; as soon as it had herniated a rubber band was placed around this herniation and the mass allowed to slough off.

Of interest in this girl's case is that practically the entire frontal lobe was lost. The frontal lobe is spoken of as the silent area of the brain, having to do with control of the sphincter muscles, memory and personality. Abscesses or tumors in this area are denoted by changes in personality, loss of memory and incontinence in urine and feces. This case showed all three and is the first case that I have seen showing all three symptoms.

Following the loss of practically the entire right frontal lobe and drainage of the abscess, she regained control of her sphincters, memory returned to such an extent that she could continue in her school work and keep up with the class, but after two years she still shows changes in personality. Where she was a quiet, well behaved, well mannered girl before, she is now noisy, rude, ill tempered and altogether a different person, although she has shown much improvement in the past two years and it is hoped that she will in time return more to the personality that she was before the occurrence of her illness.

Lymphosarcoma of the Tonsil—Case Report (Dr. J. B. Gooch, Department of Otolaryngology): The case that I have to report is one of lymphosarcoma of the tonsil fossa occurring seven years after tonsillectomy in a patient who had had celiac disease and agranulocytic angina.

The first indication of this present illness was noted on December 1, 1938, when she came to the office because of enlarged cervical glands and her mother remarked that her right tonsil "was growing back." Otherwise, there were no symptoms referable to the throat.

From the past history, the patient had recurrent attacks of sore throat and head colds; tonsillectomy and adenoidectomy seven years ago; celiac disease from the age of two to twelve; agranulocytic angina in 1933.

Physical examination revealed bilateral enlargement of the anterior cervical glands, those on the left being larger than the ones on the right; several carious lower molar teeth on each side. The left tonsil fossa and posterior pharyngeal walls were studded with small mass of lymphoid tissue as is frequently seen in patients who have had recurrent acute exacerbations of a chronic sinus infection and long-standing postnasal discharge; mass of lymphoid follicles in the right tonsil fossa simulating a recurrence of tonsil tissue, particularly an upgrowth of the lingual into the tonsil fossa proper. Ears were negative. Nose: superficial veins of anterior-interior part of the septum, turbinates congested, antra clear on transillumination. The cervical adenitis was attributed to dental infection, eradication of which was advised.

She did not return until seven weeks later (January 23, 1939). The carious teeth in the left lower jaw had been removed; the ones on the right remained. The enlarged cervical glands on the left side had practically disappeared; those on the right were still palpable. The lymphoid mass in the right tonsillar fossa had increased several times in size until it now completely filled the fossa and was beginning to extend beyond the pillars. This patient had been under Dr. Levin's care for the past seven years and his records, which he so kindly placed at my disposal, showed that, except for a slight anemia, her general physical examination was essentially negative and that she had been gaining steadily in weight right along.

Diagnosis was made of a definite neoplasm of the right tonsil fossa which, on section, proved to be a lymphosarcoma. Deep x-ray treatment was immediately begun. Two weeks later the growth had reduced one-third in size and one month later it had entirely disappeared. At present, the right tonsil fossa is perfectly smooth and free from all lymphoid tissue. The remaining carious teeth have been removed and the cervical glands are no longer palpable.

It is estimated by various authorities that about 15 per cent of all malignancies of the tonsil are lymphosarcomas. The usual age is after the fourth decade although in Jackson's series of 236 cases, five were in patients between 10 and 19 years of age. The first symptoms in order of frequency were sore throat, unilateral swelling of the neck, enlargement of the tonsil, dysphagia and loss of weight. The later symptoms were: trismus, increasing salivation, constant pain, bleeding, ulceration, and the usual symptoms of metastasis.

The tumor invariably occupied the tonsil fossa, the tonsil being enlarged, often extending beyond the middle line. The consistency of the growth may be rubbery or firm; the surface lobulated, irregular or ulcerated; the color pink, opalescent or its surface may be covered by a membranous exudate. Cervical glandular enlargement was not constant.

Dr. Schattenberg in his discussion will describe the histologic structure of the growth and the essential differential diagnostic points in cervical glandular enlargement.

The ultimate prognosis is bad. Jackson reports only one cure in 31 cases. The average duration of life was 2.5 years; those patients in whom metastasis had taken place when first observed lived an average of 1.7 years while those in whom metastasis had not occurred lived an average of 5.3 years; those with generalized lymphadenopathy, one year, none living after 2.5 years. This author remarked that it was interesting to note that the number of mitotic figures per oil immersion field seemed to give some indication of the ultimate prognosis, those with ten mitotic figures per field lived less than six months; those with five, 1.5 years, and those with only one, 3 years or more.

Costolow's article in the American Journal of Surgery (March, 1934) states that malignancy of the tonsil is usually considered hopeless. Bloodgood and Broden were unable to report a single cure by surgery. A rapidly increasing number of arrests, however, are being reported by the use of radiation. Martin and Pfluger have observed that marked radiosensitivity is common to all pharyngeal tumors and is not entirely confined to any histologic variety. They state that pharyngeal tumors are often more radiosensitive than their histologic counterparts of the adjacent oral cavity, intrinsic larynx or esophagus and that lymphosarcoma is the most radiosensitive of all. The primary involvement in practically all cases can be expected to disappear after radiation. Jackson, however, warns that initial response is often deceptive, for in 17 of his cases local recurrence rapidly took place, the average being 4.5 months.

In regard to treatment, between 1919 and 1925 radium gold seed implants in the primary lesion and radium over the cervical gland was extensively used. In the later years, deep x-ray therapy has largely replaced radium, the Coutard method of prolonged fractional doses being considered the method of choice. In nine, or 75 per cent, of a series of 12 patients treated by this method, the primary growth had completely disappeared and the patients were symptom free after one year; 33 per cent after three years, and 25 per cent after five.

Dr. Ané will discuss the use of deep x-ray and radium in this and in other lesions which produce cervical glandular enlargement.

The Pathology of Lymphosarcoma of the Tonsil (Dr. H. J. Schattenberg, Department of Pathology): Lymphosarcoma of the tonsil as a rule does not present any difficulty in its recognition from a pathologic standpoint. It is similar to sarcoma noted in other tissues. Sarcoma of the tonsil usually has the appearance of being encapsulated and the capsule of the tonsil may at times serve more or less imperfectly as the capsule of the neoplasm. The tumor grows rapidly and may attain considerable size before the patient seeks medical attention. While sarcoma elsewhere in the body is usually noted in younger individuals, in the instance of the tonsil the age incidence is much higher, more often the fourth, fifth or sixth decade of life. This age incidence makes for confusion in the differential diagnosis since carcinoma of the tonsil also occurs in the fifth or sixth decade.

Grossly, lymphosarcoma of the tonsil is of fairly soft consistency. On cut section it has a light pink or "fish-flesh" appearance. The tumor shows ulceration of the overlying mucosa only at a later stage after it has reached a considerable size. It differs in this respect from carcinoma of the tonsil which ulcerates early. Microscopically, sarcoma of the tonsil is fairly characteristic and constant. It may consist of large round cells, the so-called reticulum cell sarcoma, or when it arises from purely lymphocytic elements it may be made up essentially of small round cells. In either instance, the growth is diffuse and the normal architecture of the gland is soon destroyed. The nuclei are compact and stain deeply. Intercellular structures and blood vessels are scanty. Histopathologically, invasion of capsular structures is noted early. Lymphosarcoma constitutes only 14.5 per cent of the malignancies of the tonsil, carcinoma making up the great majority of the remainder or about 80 per cent. The growth in carcinoma is never as rapid and does not attain the size of lymphosarcoma.

Grossly, the carcinomatous growth is much firmer, cuts with a gritty sensation and has a lighter appearance on section than sarcoma. Yellowish flecks or areas of necrosis may be seen on section. Another characteristic feature is that carcinoma shows ulceration of the overlying mucosa much more constantly than sarcoma.

Histopathologically, several different types of carcinoma are recognized in this anatomic area. Tumors of this type have their origin from the stratified squamous epithelium covering the tonsils or from a similar type of epithelium lining the crypts. They have been designated, bronchiogenic carcinoma, transitional cell carcinoma, endothelioma, or according to European workers, lymphoepithelioma. As a matter of convenience, however, they may be classed as carcinomas of the tonsil.

Histologically, carcinoma of the tonsil consists of cells of epithelial origin which are of varying sizes and of pleomorphic contour. They may be stellate, round, oval or cuboidal. Epithelial pearl formation may be noted in the slower growing less malignant types. In the anaplastic, poorly differentiated highly malignant types, pearl formation is rarely encountered.

Certain non-neoplastic diseases may at times be confused with malignancies of the tonsil. Of these the most common is tuberculosis. Here the histologic picture on biopsy material, however, is very classical and easily makes the differential diagnosis. The routine examination of tonsils removed surgically and examined histopathologically has shown 0.5 per cent to be tuberculous. At an earlier period (1906-1919) Weller examined a series of 860 and found 2.35 per cent to be tuberculous. Syphilis of the tonsil, either mucus patch or chancre, may be encountered but may be diagnosed properly by darkfield, blood or biopsy examination.

The matter of regional or cervical lymph node involvement is of great importance in the instance of tonsillar malignancies. Parker states that in 67 per cent of cases metastasis to cervical nodes has already occurred when the patient is first seen. At first the involved nodes are solitary and movable; later they are matted together. A characteristic feature of sarcoma of the tonsil is that its metastasis is by the lymphatics, whereas when sarcoma occurs in other parts of the body, metastasis is by the blood stream. Prognosis is, of course, best in those cases where the cervical nodes are solitary and movable and poor where they are matted together.

From a prognostic standpoint a pathologic differentiation of cervical lymphadenopathies is desirable. The tuberculous nodes are seen more commonly in children. The infection gains entrance through the tonsils presumably through milk from tuberculous cows. The glands, even at an early stage, are matted together and are caseous. Primary lymphosarcoma of the cervical regions occurs at a much earlier age than that which occurs as a metastasis from the tonsils. In cervical Hodgkin's disease the nodes are slowly involved, at first solitary and at a later period an entire string may be matted together. In myeloid and lymphatic leukemias a large number of nodes are usually involved simultaneously. Blood film examination and leukocyte counts will, of course, make the diagnosis. At times, it may be necessary to resort to biopsy in differentiating cervical lymphadenopathies. This may be extremely dangerous in case of lymphosarcoma which has metastasized to the cervical nodes because during the biopsy procedure some of the neoplastic cells may become disseminated to the internal organs.

The Radiologic Treatment of Lymphosarcoma (Dr. J. N. Ané, Department of Roentgenology): The treatment of malignancy of the tonsil is primarily one of irradiation for two reasons: first, because of the high degree of malignancy of the tumor that is found in this region. In a fairly large series, Pfahler and Vastine found that 87.5 per cent of the carcinomas were of Grades III and IV; Broders' series from the Mayo Clinic showed that 94.1 per cent of the carcinomas of the tonsil were of Grades III and IV. Of the sarcomas, the lymphosarcoma is the most frequent. It is the most radiosensitive of all tumors. The other tumor, which has been mentioned by Dr. Schattenberg is the lymphoepithelioma, which was described by Regaud in 1921; it has a very close relationship to the lymphosarcoma and reacts to the x-ray just as the lymphosarcoma does.

The second point to be considered is the early metastasis of the lesions of the tonsil. In a fairly large series, Parker and Brues found palpable nodes in 67 per cent, and in the series of Pfahler and Vastine 61 per cent of the patients had palpable cervical nodes at the time the patient was first seen. Simmons found histologic evidence of metastasis in 34 per cent of his series with no palpable nodes. On the other hand, Ewing found 72 per cent of 200 cases to be radio-resistant. Coutard considered 62 per cent of his series to be radio-resistant lesions. This explains the rationale of employing the Coutard method of protracted irradiation in the treatment of these lesions. The radiologic treatment of lymphosarcomas varies in different clinics and also with the area involved. At the Mayo Clinic, the lymphosarcomas are considered along with myelogenous leukemia and Hodgkin's disease and classed as lymphoblastomas. This classification was first considered by Mallory. Small doses of irradiation are used to all glandular areas at the first treatment or series of treatments. Subsequently, irradiation is employed only over the involved lymphatic areas. The dose must be increased on subsequent treatments to fields previously irradiated.

In the case of malignancy of the tonsil, where the lesion is localized, large doses are indicated. At the Memorial Hospital 300 r or 400 r are given on alternate days to the right and left sides of the neck. The lymphatic nodes of the area must be included in the first series. The total dosage is brought up rather quickly to a total of 3,000 r to 4,000 r to each field. In general, however, the treatment of lymphosarcoma is similar to other malignancies of the tonsil: first, external irradiation, either by means of x-ray by the protracted or Coutard method employing at least 3,000 r to each part, or by radium bomb. This may be followed by local implantation of radium or radon to any residual lesions remaining. As mentioned previously, the lymphosarcoma is very sensitive to irradiation and it is believed that the best results can be obtained with adequate therapy. In those cases with extension of the lymphosarcoma to other organs, the rule applying to Hodgkin's disease and the leukemias should hold, that is, small amounts of irradiation over the entire lymphatic system.

I have lantern slides of one case showing the results of irradiation therapy in a case of Hodgkin's disease. The lymphosarcomas, as a group, are slightly more sensitive than Hodgkin's disease to irradiation therapy. (Slide). This is a case of a young male, 30 years of age, who complained of weakness and some anemia. He was seen about the beginning of 1934. There was involvement of the lymphatics of the mediastinum, cervical and supraclavicular regions. There also was evidence of involvement of the parenchymatous lungs. Because of the widespread involvement, small doses were employed. Approximately, 150 r were applied to the region of the mediastinal lymphatics and also to the supraclavicular region. About two weeks later, the same dosage was repeated again. (Slide 2): This film was made approximately one year afterwards, about 1935; there has been a marked reduction in size of the lymph nodes. The palpable nodes disappeared entirely. He has never had any recurrence to the chest.

I saw this patient a week ago. At that time his chest was still normal, and there was no evidence of palpable nodes.

Physiology of the Larynx: Dr. F. E. LeJeune, Department of Otolaryngology. This was demonstrated by a series of motion pictures.

J. T. NIX CLINIC

New Orleans

At the meeting held in April, Drs. L. A. Fortier and T. T. Gately presented the following paper:

LEGG-PERTHE'S DISEASE

There are a number of diseases of various individual bones called by the names of the men who originally described them, which, in recent years, the profession has gradually begun to believe are identical processes or, at most, different phases of the same disease process. The roentgen ray has played a foremost part in their recognition and study. The first of the diseases was described by Osgood in 1903 as a non-traumatic disease of the tibial tubercle: the so-called Osgood-Schlatter's disease. Kohler in 1908 described the same condition in the tarsal scaphoid bone and patella. Legg, Calve, and Perthe in 1910 independently reported the same changes in the capital epiphysis of the femur, now called Legg-Perthe's disease, the subject of this discussion.

In later years the disease was reported in the following sites: Os calcis by Sever (1912); head of second metatarsal by Freiberg (1914); vertebral epiphysis by Scheurman (1921); olecranon, greater and lesser trochanters, by Monde Felix (1922); sternal end of clavicle by Friedrich (1924); pubis by Van Neck (1924); iliac crests by Buchman (1925); heads of metacarpal bones by Mauclaire (1927); astragalus by Mouchet (1928); upper end of tibia by Ritter (1929); internal epicondyle of humerus by Lohr (1930); and the epiphysis of the first metatarsal by Wagner (1930). Brailsford reports having seen the disease in the superior lip of the acetabulum, the vertebral body, the femoral neck, the neural arch of the fifth lumbar, the accessory tarsal scaphoid and the pisiform.

The group as a whole has come fairly generally to be called osteochondritis; aseptic necrosis; or subchondral necrosis. The etiology remains unknown, and attempts to reproduce the disease experimentally have been unsuccessful. Infection was thought originally to be the cause in some cases, as organisms were recovered by some investigators from biopsy specimens. Harbin grew Staphylococcus albus aerobically and anerobically from one case, but got negative cultures from several other similar cases.

A disturbance in blood supply resulting from trauma to a growth center has been blamed for the condition. The appearance of the disease in several members of the same family and the involvement of multiple major growth centers in the same individual would tend to discount trauma as a causative factor. Heredity is suggested by Hanson who observed the vertebral type in a child, parent and grandparent. Tuberculosis, disturbances of the sympathetic innervation and endocrine dyscrasias have all been suggested as causes. Harbin believes there are different types of the disease and possibly several different etiologic factors.

The most common location of the disease is in the developing femoral head. Legg-Perthe's disease, or osteochondritis deformans juvenilis, is clinically seen more frequently in boys than in girls, and is usually unilateral, but may be bilateral. The age period is three to twelve years, most frequently occurring in the six to eight year period. Pain may be absent or mild and may be referred to the knee rather than the hip. Limping may be the only symptom. Radiographically the earliest sign is a convexity of the upper border of the neck of the involved femur as compared with the straight line of the opposite side. This was noticed by Gage (British Journal of Radiology, 1933) in a radiograph three weeks following injury in a patient who later developed Perthe's disease. On checking over thirty previous cases of Perthe's disease the same convexity was found. It contributes to the well known thickening of the neck in advanced cases. The next earliest sign is an apparent increase in density of the suspected bone which may be due to an interference with the blood supply and may be intensified by a slight decalcification of the surrounding bones, because of disuse occasioned by the pain from the lesion. Later the head becomes flattened and fragmented and if the part is not put to rest at this stage marked pressure changes may occur. The head may become mushroomed and the acetabulum develop irregularly. The joint space, however, is preserved. True arthritis does not play a part in the process but may develop in later years from mechanical irritation from the deformed head.

The prognosis is uniformly good for healing. They all heal and the good or bad end-results will depend on the amount of deformity which has been produced in the head and acetabulum by pressure. The duration of the disease is commonly three to four years, but may be shortened or prolonged in individual cases.

Legg-Perthe's disease has been often confused with tuberculosis in the past, causing much unnecessary concern on the part of patients and parents but with the advent of better and more frequent radiographs and an increased knowledge of the radiographic findings in the various stages such mistakes are being held to a minimum.

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TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR

May 1. Board of Directors, Orleans Parish Medical Society, 8 p. m.
Clinico-pathologic Conference, Hotel Dieu, 8:15 p. m.
May 2. Eye, Ear, Nose and Throat Hospital Staff, 8 p. m.
May 3. Radio Talk, Orleans Parish Medical Society, 9:15 to 9:30 a. m., WDSU.

Clinico-pathologic Conference, Charity Hospital and L. S. U., 2 p. m.
Hutchinson Memorial Clinic Staff, 8 p. m.
Mercy Hospital Staff, 8 p. m.

May 4. Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.

May 8. Orleans Parish Medical Society, 8 p. m.

May 9. Eye, Ear, Nose and Throat Club, 8 p. m.

May 10. Radio Talk, Orleans Parish Medical Society, 9:15 to 9:30 a. m., WDSU.
Clinico-pathologic Conference, Charity Hospital and L. S. U., 2 p. m.
Touro Infirmary Staff, 8 p. m.

May 15. Hotel Dieu Staff, 8 p. m.

May 16. Charity Hospital Medical Staff, 8 p. m.

May 17. Radio Talk, Orleans Parish Medical Society, 9:15 to 9:30 a. m., WDSU.
Clinico-pathologic Conference, Charity Hospital and L. S. U., 2 p. m.
Charity Hospital Surgical Staff, 8 p. m.

May 18. Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.

May 19. I. C. R. R. Hospital Staff, 12 Noon.
New Orleans Dispensary for Women and Children Staff, 8 p. m.

May 22. Joint Meeting of the Orleans Parish Medical Society and the Tuberculosis and Public Health Association of Louisiana, 8 p. m.

May 23. Baptist Hospital Staff, 8 p. m.

May 24. Radio Talk, Orleans Parish Medical Society, 9:15 to 9:30 a. m., WDSU.
Clinico-pathologic Conference, Charity Hospital and L. S. U., 2 p. m.
French Hospital Staff, 8 p. m.

May 25. Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
L. S. U. Faculty Club, 8 p. m.

May 31. Radio Talk, Orleans Parish Medical Society, 9:15 to 9:30 a. m., WDSU.
Clinico-pathologic Conference, Charity Hospital and L. S. U., 2 p. m.

During the month of April, the Society held one joint scientific and first quarterly executive meeting. The following program was presented:

Bacillus Pyocyaneous Meningitis; A Report of Six Cases—By Dr. John H. Musser and, by invitation, Dr. R. A. Wise.

The paper was read by Dr. Wise and discussed by Drs. Musser and George Fasting.

Toxicity of Sulfanilamide and Related Componds—By Dr. Clyde Brooks.

Discussed by Drs. Allan Eustis and H. W. E. Walther.

Tic Douloureux—By Dr. Dean Echols.

Discussed by Drs. Gilbert C. Anderson, George Fasting and Erwin Wexberg.

At this meeting the Society voted favorably on a resolution authorizing the signing of newspaper articles to be approved by the Publicity Committee of the Orleans Parish Medical Society.

The Society also voted to have the second Monday of the month serve as the regular meeting date since the recent ruling for one meeting a month.

The secretary's office has been very busy during the past month working on forms from the American Medical Association regarding study and provision of medical care. The members are urged to fill in these forms at once and return them to the office.

Drs. Lee-Russell B. Centanni and Karl L. Dickens were elected to active membership.

On March 13, Dr. Don Julian Graubarth addressed the Parent-Teacher Association of the Isidore Newman Manual Training School.

The following members of the society attended the meeting of the Second District Medical Society at Kenner on March 16: Drs. C. Grenes Cole, Charles F. Gelbke, Roy B. Harrison, Cassius L. Peacock, Paul T. Talbot, and Robert M. Willoughby.

Drs. Waldemar R. Metz and John T. Sanders attended a meeting of the Seventh District Medical Society in Crowley, March 23.

Drs. William Harvey Perkins and Julius Lane Wilson attended the annual convention of the Louisiana Public Welfare Association, March 31-April 1.

Dr. C. J. Tripoli left April 8 for Athens, Greece, to be gone six weeks as chief consultant in medicine for the William G. Helis Oil Corporation.

Dr. Alton Ochsner addressed the Spokane Surgical Society, Spokane, Washington, on April 8. On April 13-15 Doctor Ochsner was the guest speaker of the Arizona State Medical Society at Phoenix, Arizona.

Dr. Michael E. DeBakey addressed the East Baton Rouge Parish Medical Society on April 12.

Dr. Theodore J. Dimitry was a guest speaker before the Congress of Eye, Ear, Nose and Throat Specialists at Fort Worth, Texas, April 15.

Dr. Otto Joachim has been re-elected for a tenth term as president of the Louisiana League for the Hard of Hearing. Drs. Frank R. Gomila and A. I.

Weil were named vice-presidents. On the board are Drs. Val Fuchs and William Wagner.

Dr. Sydney Jacobs was appointed State Chairman of the Early Diagnosis Campaign of the Tuberculosis and Public Health Association of Louisiana.

Drs. Emma Sadler Moss and Chester Sebastian Fresh were named as associates of the American College of Physicians recently.

The following officers of Baptist Hospital Staff were installed at the staff dinner: Dr. E. Z. Browne, president; Dr. Charles L. Cox, vice-president; Dr. Garland Walls, secretary, and Dr. Robert F. Sharp, treasurer.

Drs. B. I. Burns and Wilbur C. Smith attended the fifty-fifth annual meeting of the American Association of Anatomists in Boston, April 6-8.

Dr. Béla Halpert presented a paper at the meeting of the American Association of Pathologists and Bacteriologists in Richmond, Virginia, April 6-7. This paper, by Drs. Rigney D'Aunoy, Bjarne Pearson, and Béla Halpert, was entitled "Carcinoma of the Lung: an Analysis of 74 Necropsies."

Dr. Philip J. Bayon addressed the Health Builders Club on April 11.

Dr. Lucien A. LeDoux, Councilor from Louisiana of the Southern Medical Asociation, met in Memphis recently with the Committee on Arrangements for the coming meeting of the Association in November.

Dr. Isidore Cohn, Associate Director of the Department of Surgery, Graduate School of Medicine, Louisiana State University Medical Center, addressed the Kiwanis Club, of Columbus, Georgia, at their luncheon meeting, March 28. Dr. Cohn's subject was "The Relation of the Medical Profession to the Public." On the evening of the same day, Dr. Cohn spoke at Muskogee University on "Reflections on Surgery of the Gall Bladder and Biliary Tract."

On March 29, Dr. Cohn attended a meeting of the Appendicitis Committee of the Southern Medical Association at Nashville, Tennessee.

Dr. Gilbert C. Anderson attended the meeting of the Harvey Cushing Society at New Haven, April 6-8. This Society, which is composed chiefly of Dr. Cushing's former pupils and associates, met at the Yale Medical School for the celebration of Dr. Cushing's seventieth birthday. Dr. Cushing is now Professor of Neurological Surgery at Yale and was formerly head of the Department of Surgery in the Harvard University School of Medicine. Dr. Dean Echols attended as a guest of the society.

Dr. Urban Maes attended the meeting of the Society of Clinical Surgeons in Nashville, April 13-15.

Members attending the meeting of the Medical Association of the State of Alabama, April 18-20, in Montgomery, were Drs. Clyde Brooks, Hiram W. Kostmayer, Maxwell E. Lapham and Julius Lane Wilson.

Drs. Hilliard E. Miller and E. Perry Thomas attended the meeting of the Chicago Gynecological and Obstetrical Society on April 20.

Dr. Morris Shushan was certified by the American Board of Internal Medicine.

Dr. Rufus H. Alldredge was granted a fellowship by the Nemours Foundation in Wilmington, Delaware, for research to aid crippled children.

A Speakers' Bureau is being formed in the Orleans Parish Medical Society for the purpose of giving addresses on medical economics and medical subjects to lay organizations. Members are requested to take part in this movement.

TREASURER'S REPORT

Actual book balance 2/28/39	$4,723.04
March credits	$1,760.20
Total credits	$6,483.24
Expenditures	$1,393.55
Actual book balance 3/31/39	$5,089.69

LIBRARIAN'S REPORT

During March, 58 volumes have been added to the library. Of these 12 were received by binding, 38 by gift, and 8 from the New Orleans Medical and Surgical Journal.

The library has loaned to physicians during March, 1,106 books and journals, or approximately two to each member of the society. In addition 1,074 items have been loaned to students for overnight use, making a total of 2,180 for the month.

Members of the staff have collected material on the following subjects during the month:

Dermatitis from carbon paper.
Peyronie's disease.
Insulin in treatment of diseases of the ear.
Urticaria from pituitrin.
Acacia in treatment of nephrosis.
Treatment of typhoid with vaccine.
Emotional factor in disease.
Injuries to the ear from electric shock.
Postoperative emotional stability.

Mouth lesions in leukemia.

Fractures of the malar bone.

Perforation in bacillary dysentery.

Fee splitting.

Arteriosclerotic gangrene.

Pneumonia.

Migraine.

Nervous complications in convalescence.

This notation does not include the great number of questions which are answered at once by consultation of a reference book or by the use of the card catalogue.

NEW BOOKS

Laignel-Lavastine, M.: Concentric Method in the Diagnosis of Psycho-Neuroses, 1931.

Callendar, C. L.: Surgical Anatomy, 1939.

Cutler, Max: Cancer, 1938.

Hinsie, L. E.: Concepts and Problems of Psychotherapy, 1937.

Guedel, A. E.: Inhalation Anesthesia, 1937.

Niemoeller, A. F.: Superfluous Hair and Its Removal, 1938.

Niemoeller, A. F.: Feminine Hygiene in Marriage, 1938.

Kirk, J. B.: Manual of Practical Tropical Sanitation, 1937.

Kilduffe, R. A.: Clinical Urinalysis and Its Interpretation, 1937.

Gilbert C. Anderson, M. D.,
Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Wednesday of every month	Baton Rouge.
East and West Feliciana	First Wednesday in June	Jackson.
Morehouse	Second Tuesday of every month	Bastrop.
Orleans	Second and fourth Monday of every month	New Orleans.
Ouachita	First Thursday of every month	Monroe.
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	

THE STATE MEETING

The annual meeting of the Louisiana State Medical Society occurred too late in April to record any of the activities which took place during the meeting, whether social, scientific or business. Full account will appear in a later number of the Journal.

SECOND DISTRICT MEDICAL SOCIETY

The quarterly meeting of the Second District Medical Society was held at La Place, La., on April 20, with Dr. J. E. Clayton presiding and Dr. F. S. Herrin as Secretary.

Our Society was honored by the presence of Dr. J. A. O'Hara, President of the Louisiana State Medical Society, and Dr. C. L. Peacock, President of the Orleans Parish Medical Society.

The scientific program was most interesting and educational.

Dr. Emmett Irwin of New Orleans discussed the surgical phase of gallbladder disease, illustrated with interesting diagnostic drawings showing numerous anomalies of the arterial supply of the gallbladder which at times may occasion serious complications in gallbladder surgery.

The second speaker of the evening was Dr. William Heyerdale, a member of the Mayo Clinic. His subject was, "Retrograde Injection of the Great Saphenous Vein", illustrated with a beautiful moving picture demonstration of the technical procedure as used by the author.

Both talks were discussed by many of the physicians present.

Following the scientific program, a banquet was served, Dr. W. F. Guillotte acting as host.

Those present were: Drs. J. S. Kopfler and C. F. Gelbke, Jefferson Parish; Drs. J. S. Parker, E. P. Feucht, and W. F. Guillotte, St. John Parish; Drs. J. E. Clayton, F. S. Herrin, P. T. Landry, C. Gill, St. Charles Parish; Dr. William Heyerdale from the Mayo Clinic; Drs. A. V. Friedrichs, J. A. O'Hara, L. J. Menville, C. L. Peacock, E. L. Erwin, P. B. Salatich and D. N. Silverman, Orleans Parish.

F. S. Herrin, Secretary.

FOURTH DISTRICT MEDICAL SOCIETY

One hundred and twenty-five doctors from South Arkansas, East Texas, and North Louisiana enjoyed a delicious dinner on March 14, given by Shreveport Charity Hospital. Following dinner, the meeting of the society was called to order at 8 p. m. by the president, Dr. Sam Kerlin.

Dr. D. B. Barker, of Alexandria, announced the April meeting of the Louisiana State Medical Society at Alexandria, and told about the fine things in store for us there at that time.

SCIENTIFIC PROGRAM

Dr. H. F. Arbuckle, Assistant Professor of Otolaryngology at Washington University, St. Louis, was the principal speaker of the evening. Dr. Arbuckle's work in bronchoscopy is widely known. Using lantern slides to illustrate the various lung affections, he pointed out the importance of bronchoscopic examination in the diagnosis and treatment of foreign body in the lung, bronchiectasis, carcinoma of the lung, lung abscess, hemorrhage from the bronchial tube, and in some cases of tuberculousis. Dr. Arbuckle stated that, in his experience, surgical resection was the only cure for carcinoma of the lung. He pointed out the relatively mild symptoms caused by early bronchial carcinoma. He stated that with the exception of tuberculosis and lung abscess, the most frequent causes of hemorrhage were carcinoma and abscess, and that when medical treatment failed to control the hemorrhage, endobronchial suction and sometimes packing were done. He pointed out the importance of bronchoscopy in bronchiectasis because of the frequency with which foreign bodies are found. Dr. Arbuckle's instructive lecture was discussed by Drs. Crebbin, Gorton and Browning.

The second paper of the evening, entitled "Dental Disease in an Aboriginal Group," was given by Walter T. Colquitt, D. D. S., and C. H. Webb, M. D. Dr. Webb, during the past few years, has unearthed some twenty Indian skulls from various Indian mounds in north Louisiana. Dr. Colquitt interpreted the dental findings in these skulls. The interesting findings were that skulls taken from mounds at Belcher, showed dental disease comparable to dental disease prevalent in the present generation, while skulls taken from mounds near Gahagan, on the Red River, showed excellent dentition with fine arch formation and practically no dental disease. At first it appeared strange that two groups of people living only a few miles apart between 200 and 550 years ago should present such different findings. Further investigation, by a study of the pottery and ceremonial equipment found in the separate mounds, revealed that the Indians near Gahagan migrated from the coast of Florida up the Red River to the point where their skulls were found, and that their diet had contained an abundance of sea food. The Indians near Belcher, were agriculturists and their diets had consisted mainly of vegetables and grain with only a minimum of fish or sea food. Dr. Colquitt stated that these findings were in keeping with those of other research workers on this subject. This paper was discussed by Drs. Lebo, Johnson and Crebbin. Many of the Indian skulls were on display for examination.

N. J. Bender, M. D., Sec.

SIXTH DISTRICT MEDICAL SOCIETY

The spring meeting of the Sixth District Medical Society was held Thursday, April 13, at Our Lady of the Lake Sanitarium in Baton Rouge.

The scientific program consisted of two papers: "Treatment of Pneumonia" by Dr. J. H. Musser, of New Orleans; "Infections of the Face" by Dr. Charles McVea, of Baton Rouge.

The following officers were elected for the ensuing year: Dr. H. A. Folse, Donaldsonville, president; Drs. D. C. Brumfield, Darrow; J. J. Ayo, Jackson; Cecil Lorio, Baton Rouge; W. E. Barker, Plaquemine; W. F. Bray, Springfield; Glenn J. Smith, Hammond; M. O. Becnel, New Roads; C. S. Toler, Greensburg; H. E. Gautreaux, Covington; A. W. Martin, Bogalusa; Paul Landry, Port Allen; C. C. Blakeney, St. Francisville, Vice-presidents; Dr. E. M. Robards, Jackson, secretary; Dr. Cecil Lorio, Baton Rouge, treasurer; W. E. Barker, Plaquemine, delegate.

E. M. Robards, M. D., Sec.

SEVENTH DISTRICT MEDICAL SOCIETY

The fourth quarterly meeting of the Seventh District Medical Society was held at the Egan Hotel in Crowley on March 23, with Dr. E. C. Faulk, president, presiding. The banquet, which was prepared by the St. Michael School League, was served in the main dining room.

Following the transaction of routine business, officers for the ensuing year were elected. Dr. Charles O. Frederick, Lake Charles, was elected president; Dr. J. J. Stagg, Eunice, vice-president; Dr. W. A. K. Seale, secretary-treasurer; Dr. E. C. Faulk, Rayne, delegate; D. E. L. Landry, Opelousas, alternate. It was decided to recommend Dr. Claude A. Martin, Welsh, for re-election as Councilor of the Seventh District.

Drs. Lawrence Spitzer, Kinder; Clifford Keller, Church Point; and G. E. Barham, Lake Charles, were elected to membership.

Motion was made and carried authorizing the secretary-treasurer of the society to notify State and U. S. Senators and Congressmen of the membership's opposition to the Wagner Bill.

The scientific program consisted of two papers presented by guest physicians from New Orleans. Dr. W. D. Metz's interesting paper on "Primary Plastic Repair of Facial Injuries" was supplemented with lantern slides; Dr. J. T. Sanders spoke on "Dysmenorrhea." Both guest speakers were made honorary members of the society.

The next meeting of the society will be held in Jennings.

J. W. Faulk, M. D., Sec.

VERMILION PARISH MEDICAL SOCIETY

A meeting of the Vermilion Parish Medical Society was held in Abbeville on March 28. Officers elected for the coming year were as follows: Dr. J. T. Abshire, Kaplan, president; Dr. Adolph Landry, Delcambre, vice-president; Dr. M. A. Young, Abbeville, secretary-treasurer; Dr. Leo Saportio, Kaplan, delegate; Dr. Thomas Latiolais, Kaplan, alternate.

Members of the society unanimously rejected plan for medical care for FSA families in Vermilion Parish, believing that the amount to be allowed per family for medical attention was not sufficient.

M. A. Young, M. D., Sec.

OUACHITA PARISH MEDICAL SOCIETY

The regular meeting of the Ouachita Parish Medical Society was held in Monroe, April 6, at 7:30 p. m., Dr. John Pracher, president, presiding.

The scientific program consisted of two presentations: Dr. Eugene H. Countiss, of New Orleans, spoke on "The Treatment of Cervicitis." Discussion was opened by Dr. Talbot. The second paper, "Secondary Infection of Fungus Dermatitis," was read by Dr. C. Barrett Kennedy, also of New Orleans, and was discussed by Drs. Wood, Talbot and Guerriero.

Letter from the secretary-treasurer of the State Medical Society in regard to medical survey of the A. M. A. was read. Action was deferred until the next meeting.

L. L. Titche, M. D., Sec.

JACKSON-LINCOLN BI-PARISH MEDICAL SOCIETY OFFICERS, 1939

President: Dr. Joe Smith, Dubach.
Vice-President: Dr. J. B. Harris, Ruston.
Secretary-Treasurer: Dr. R. H. Allen, Ruston.
Delegate: Dr. M. T. Green, Ruston.
Alternate: Dr. J. E. Crawford, Ruston.

IBERVILLE PARISH MEDICAL SOCIETY

President: Dr. W. E. Barker, Jr., Plaquemine.
Vice-President: Dr. F. O. Tomeny, White Castle.
Secretary-Treasurer: Dr. E. C. Melton, Plaquemine.
Delegate: Dr. R. J. Spedale, Plaquemine.
Alternate: Dr. W. R. Barker, Jr., Plaquemine.

MEDICO-MILITARY COURSE

Eighty-seven Medical Reserve Officers in the Fourth Corps Area registered for the second Medico-Military Inactive Duty Training Course which began at Tulane University Tuesday, April 11, 1939.

The course consisted of all day instruction by the faculty of the School of Medicine of Tulane University and by Military Officers assigned by the Surgeon General's office for this purpose.

There was a very interesting and instructive exhibit of Aviation Medicine which was demonstrated by a Medical Officer of the United States Army. This was well attended and aroused much favorable comment.

Two afternoons were spent at the Marine Hospital where, in addition to other things of interest, fever therapy was demonstrated.

The course closed at noon on Saturday, April 22, 1939, after seventy-one hours of intensive instruction.

AMERICAN ASSOCIATION FOR THE STUDY OF GOITER

The annual meeting of this organization will be held May 22-24, 1939, in Cincinnati. An excellent program has been provided which includes not only formal papers by such men as Thompson of Chicago, Tinker of Ithaca, Haines and Magath of Rochester, Crile, Jr. of Cleveland, Guthrie of Sayre and Cutler of Boston, but also operative clinics at the various Cincinnati Hospitals and dry clinics as well. The Van Meter Prize Essay will be delivered on Tuesday afternoon, May 23.

THE LOUISIANA STATE PEDIATRIC SOCIETY

The eleventh annual session of this organization was held in Alexandria, April 24, at the Bentley Hotel with the president, Dr. Ruth Aleman, in the chair. At the morning session a paper on "Nephritis in Children" was read by Hugh L. Dwyer, Associate Professor of Pediatrics, School of Medicine, University of Kansas; and "Present Day Concepts of Tuberculosis in Children" by Julius Lane Wilson, Associate Professor of Medicine, Tulane University School of Medicine. After a delightful luncheon the meeting reconvened at a dinner session that evening. The presentation that night was on "Jaundice in the New Born" by Hugh L. Dwyer.

AMERICAN HEART ASSOCIATION

The fifteenth annual scientific sessions of the American Heart Association will be held in St. Louis, May 12 and 13, at the Hotel Jefferson. The heart program will take place on Friday and the program for the study of the peripheral circulation on Saturday. Numerous outstanding men will participate in the programs, including Drs. C. S. Burwell, H. L. Blumgart and P. D. White of Boston. Dr. William A. Sodeman of New Orleans will present a paper. The Lewis A. Conner Lecture will be delivered by Dr. Harry Goldblatt of Cleveland. On the program of the section for the study of the peripheral circulation, Dr. J. Ross Veal, formerly of New Orleans and now of Washington, D. C., will appear. Also on this program are Drs. E. A. Hines, Jr., Rochester; W. M. Yater, Washington, D. C.; L. G. Herrmann, Cincinnati. The George Brown Memorial Lecture will be delivered by Dr. Cecil K. Drinker of Boston.

The Twelfth Graduate Fortnight of The New York Academy of Medicine will be held from October 23 to November 3, 1939. The subject of this year's fortnight is "The Endocrine Glands and Their Disorders." The purpose of the fortnight is to make a complete study and authoritative presentation of a subject of outstanding importance in the practice of medicine and surgery. Complete program and registration blank may be secured by addressing Dr. Mahlon Ashford, The New York Academy of Medicine, 2 East 103 Street, New York City.

The annual meeting of the American Rheumatism Association will be held on Monday, May 15, in the Roof Solarium of the Chase Hotel, St. Louis, Missouri.

TOURO MEDICAL STAFF MEETING

A regular meeting of the medical staff of Touro Infirmary was held on Wednesday, April 12, at 8 p. m. Following the clinicopathologic conference conducted by Dr. John A. Lanford, two papers were presented. Drs. Isidore Cohn and Marshall Michel presented a paper on "Osteomyelitis of Ilium"; Dr. R. S. Crichlow spoke on "The Use of Prontosil in Infections of the Eye."

Fairchild Bros. and Foster announce with deep sorrow the death of their President, Mr. Benjamin T. Fairchild, on Saturday, March 25, 1939.

HEALTH OF NEW ORLEANS

The Department of Commerce, Bureau of the Census, reports that for the week ending March 18 there were 156 deaths in the City of New Orleans, divided 81 white and 75 ngero. This was a pronounced drop in the death incidence of the preceding week, when 210 fatalities were recorded. There were 13 deaths in children under one year of age, divided 12 negro and one white. For the week which came to a close March 25, the number of deaths was almost identical with that of the preceding week, namely 152, of which 96 were in the white and 56 in the negro population. A sharp rise in the infant mortality was noted, there being 21 deaths in children under one year of age, the great majority in the negro population. For the week which terminated April 1, again the number of deaths was almost identical with that of the previous week. There were 155 deaths in the city of which 102 were in the white and 53 in the negro race. Again the infant mortality was high with 22 deaths in infants under one year of age. April 8 closed a very healthy week in the City of New Orleans. One hundred and thirty-three people died of whom 75 were white and 58 negro; only 11 small children died.

INFECTIOUS DISEASES IN LOUISIANA

Dr. J. A. O'Hara, epidemiologist for the State of Louisiana, has furnished us with the weekly morbidity reports for the state, which contain the following summarized information: A mild epidemic of measles which had been prevalent throughout the state, as indicated by 201 cases of measles recorded for the week ending March 11, was still active in the state. One hundred and fifty-four cases of this disease were listed for the week ending March 18. Next in order of frequency of diseases occurring in numbers greater than ten were 148 cases of syphilis, 50 pneumonia, a decrease of nearly 100 per cent from the preceding week, 36 of gonorrhea, 34 of pulmonary tuberculosis, 29 of chickenpox, 27 of influenza, a decrease from 82 the previous week, 14 of cancer and 12 of diphtheria. There were 17 cases of typhoid fever listed this week, six of which originated in New Orleans and four in Caddo Parish. There were two cases of tularemia reported, one from Franklin and one from West Carroll Parish; two cases of smallpox, both from Acadia Parish, were reported. Measles was still epidemic in Louisiana for the twelfth week with 162 cases listed, but was exceeded in number by 174 cases of syphilis in the weekly report. Other diseases in double figures included 64 cases of influenza, 43 of pneumonia, 41 of hookworm, 36 of chickenpox, 28 each of gonorrhea and pulmonary tuberculosis, 20 of whooping cough, 15 of typhoid fever, and 11 each of scarlet fever and diphtheria. Two cases of typhus fever occurred in Pointe Coupee Parish; a case of smallpox was discovered in St. Tammany Parish. Measles was the predominant disease reported for the thirteenth week of the year, ending April 1, when 189 cases appeared in the record. All other reported diseases fell off with the exception of typhoid fever which had 17 cases listed, and cancer of which there were 18. Other diseases included 55 cases of syphilis, 42 of pneumonia, 20 of chickenpox, 19 of pulmonary tuberculosis, and 11 each of influenza and diphtheria. There were 14 cases of typhoid fever from Orleans Parish, six of which were imported, and five from Caddo Parish. There were two cases of undulant fever, one from Calcasieu and one from St. Tammany. Six cases of tularemia were listed, three from Caddo, and one each from East Baton Rouge, Red River and St. James. A case of smallpox was discovered in Orleans Parish. Evidently the report of the cases of syphilis had accumulated because, in contrast with the 55 cases listed in the previous week, there were 392 cases reported for the week ending April 8. Of the other diseases, measles was ahead with 151 cases, followed by 35 of pulmonary tuberculosis, 19 of influenza, 18 each of typhoid fever and chickenpox, 17 of pneumonia, 12 of cancer and 11 of diphtheria. This week the typhoid fever cases were reported from ten different parishes. Of the rarer diseases, typhus fever was discovered in Calcasieu Parish and undulant fever in Washington Parish. For the week which closed April 15, the fifteenth week of the year, syphilis led the list with 253 cases, followed by 198 of measles, 85 of influenza, 41 of pneumonia, a sharp increase in the number of cases of these two respiratory diseases, 21 of pulmonary tuberculosis, 20 of hookworm, 16 of diphtheria, 14 of malaria and cancer, 12 of scarlet fever, 11 of whooping cough and 10 each of typhoid fever and gonorrhea. A case of smallpox was reported from Webster Parish; two cases of undulant fever from Madison and Orleans, two cases of tularemia from Iberville and Red River parishes.

WOMAN'S AUXILIARY

Louisiana State Medical Society

President—Mrs. Frederick G. Ellis, Shreveport.

President-elect—Mrs. S. M. Blackshear, New Orleans.

First Vice-President—Mrs. C. A. Martin, Welsh.

Second Vice-President—Mrs. A. G. McHenry, Monroe.

Third Vice-President—Mrs. D. C. McBride, Alexandria.

Fourth Vice-President—Mrs. A. F. Hebert, New Orleans.

Treasurer—Mrs. O. C. Rigby, Shreveport.

Recording Secretary—Mrs. D. T. Milam, Monroe.

Parliamentarian—Mrs. A. A. Herold, Shreveport.

Corresponding Secretary—Mrs. C. B. Erickson, Shreveport.

Historian—Mrs. W. P. Gardiner, New Orleans.

OUR NATIONAL PRESIDENT

Mrs. Charles Tomlinson was the guest of the Louisiana Auxiliary on Good Friday in Shreveport. At a luncheon, given in her honor at the Shrine Club on Cross Lake, Mrs. Tomlinson charmed every lucky guest with her delightful wit and good humor. When she spoke quite seriously to the guests of the privileges and obligations of auxiliary membership, her words were an inspiration for all time.

HYGEIA

Louisiana, under the compelling chairmanship of Mrs. C. P. Gray of Monroe, sent 134 subscriptions to *Hygeia*. Now, as far as subscriptions go, that does not sound impressive, but to those who know Louisiana's record in *Hygeia* that is a superb achievement.

REPORT OF THE PRESIDENT

Twelve months ago when I took office as your President, the road seemed steep, but your loyal cooperation and unselfish application to duty have brought us to the end of another year—a year full of pleasures, problems and anxieties—to a better understanding and lasting friendships. If my administration has had any measure of success, it has flourished because of the constant assistance of national officers and the officers who comprised my executive board and the loyal support of the auxiliary membership as a whole. My special appreciation is given gratefully to the two former state presidents who live in Shreveport, Mrs. A. A. Herold and Mrs. R. T. Lucas, who were near enough to help and advise me when I needed them most.

For their assistance, our sincere thanks go to Dr. John H. Musser of New Orleans and Dr. Paul D. Abramson of Shreveport who formed our Advisory Board, and to Dr. P. T. Talbot, Secretary of the State Medical Society, for his help on occasions when we were in urgent need of material and information from his office.

The early work in May and June consisted in selecting councilors for the different congressional districts, and these eight actively interested and capable women served faithfully as parish advisors and assisted the Chairman of Organization in securing permission from the parish medical societies for organizing their wives into auxiliary groups, where interest was aroused. Efficient chairmen were picked for each standing committee and plans outlined for their work along the lines suggested by the National Chairman of Committees.

The national handbooks supplied by the last administration were deemed adequate for another year. The four copies of the *National News Letter* were sent each auxiliary, the larger groups being urged to pay for same, since the treasury was empty. The bill for the new auxiliaries and small auxiliaries was paid with State funds in December when some dues came in.

Due also to the depleted condition of the treasury, printed stationery was not available until September, when Dr. and Mrs. Clarence Lorio of Baton Rouge donated 1,000 sheets of paper and 750 envelopes for the use of the Auxiliary, a gift which was greatly appreciated by your officers. This stationery listed the names and addresses of all officers and was beautifully printed.

Probably the most outstanding accomplishment has been advance in organization. Mrs. Roy Carl Young, Organization Chairman, has an enviable record in seven new fully paid up parish auxiliaries, viz: Avoyelles, Second District composed of Jefferson, St. James, St. Charles and St. John, Natchitoches, Sabine, St. Landry, Tangipahoa and Vermilion. Mrs. R. B. Wallace, Councilor for the Eighth District, was instrumental in organizing three of these new units, while Mrs. R. B. Harrison, Councilor for the Second District, Mrs. T. H. Watkins, Councilor for the Seventh District, and Mrs. A. W. Martin, Councilor for the Sixth District were responsible for one each.

I am sorry to have to report the loss of the Tri-Parish Auxiliary, due to distances separating the members. I believe a change in their plans and policies might rebuild an active group.

Doctors' Day was successfully celebrated in almost every auxiliary. Radio talks, newspaper editorials, flowers to the doctors, teas and many other tributes were given the medical profession.

The exhibits at the convention speak for the untiring efforts of the Exhibit Chairman to interest the parish auxiliaries in proudly showing their activities by means of posters or models.

The Finance Chairman had to show her ingenuity in managing a State organization on a limited budget. Her report is most interesting.

Hygeia Chairman proudly reports 134 subscriptions placed, a large increase over last year, but far below many other states. We need your cooperation there very badly.

Our donation to the Indigent Physicians' Fund this year totaled $45.00. While Orleans Parish has not sponsored the Indigent Physicians' Fund, they have contributed splendidly to a fund for widows of physicians in their parish, a most worthy cause.

Public relations work has grown and each auxiliary is beginning to realize that real public relations work is necessary if the lay public is to be kept informed on subjects vitally interesting to their welfare from the medical standpoint. Cooperating with the National and State Legislative Chairmen, the women of the auxiliaries have this year undertaken to study the present conditions in regard to socialized medicine, many of our prominent doctors giving their time to offer a course of lectures. Caddo, Calcasieu, Orleans, Ouachita and Rapides had these series of lectures.

The Press and Publicity Chairman has capably handled all material sent to her at all times, evidence of her work being found in each issue of the *New Orleans Medical and Surgical Journal.* We desire to thank the editors for their courtesy in allowing us space each month.

Programs have been varied and well balanced and program suggestions sent to all parish auxiliaries. Great stress was laid on all forms of health education and efforts were made to publicise the A.M.A. radio broadcasts over a national hook-up.

The unlimited forms of philanthropic work done by the different parish auxiliaries are worthy of high praise, but time does not permit me to single out the many activities. Needless to say, the work of the anti-tuberculosis and anti-cancer campaigns are the most prominent. Each parish president will enumerate her special work for your benefit.

The work of the Printing and Supply Chairman speaks for itself in the splendid year books covering the two years just past. These present for you a record of our aims and give a list of our officers and membership. This book like others of past years will hold its place in our history. The registration cards also have been typed under her supervision.

Our membership has not increased correspondingly with our organization work, the total this year being 504 against 483 last year. This is due to no fault of the auxiliaries nor to lack of interest, but to a change in the date of the end of the fiscal year of Orleans Parish from May until January. Last year they had 301 members, while, in the two months of their present year, time being so limited, only 165 memberships have been paid into the State.

Auxiliary meetings for the most part have been well attended and, although the smaller groups cannot support all activities, all play a remarkable part in our work as a whole. The new auxiliaries have hardly had time to develop the program they wish to carry out, but with their growing interest and enthusiasm, prospects are for splendid, active organization.

My report would not be complete without telling of my visits to the nearby auxiliaries of Ouachita, Rapides and Calcasieu. My most urgent appeal is to you to have your new president meet with you, for it will encourage her and I hope give you a little better insight into the aims and traditions for which we are striving. I also had the pleasure of visiting and representing Louisiana at the Tri-State Convention, where the Texarkana Auxiliary entertained also the Presidents of Texas and Arkansas. Much benefit was derived from this visit in helpful suggestions and comradeship. Then to climax my year, the National President, Mrs. Charles Tomlinson, came to Shreveport on April 6, where she met the State officers residing in Shreveport and the members of Caddo Auxiliary. In her address she suggested that all women of the State get behind the men in urging attendance at all the medical meetings in their own society and the State Society, as only by a united front can the Medical Society cope with the changing conditions of today. Her sincerity and graciousness charmed the group in attendance. The privilege of meeting her and discussing plans and conditions surrounding us today was inspiring in every way.

My two visits to the Rapides Parish Auxiliary were made to go over convention plans. They, as the Hostess Auxiliary, are to be congratulated upon their successful meeting, and their hospitality, I am sure, will not soon be forgotten. My sincere thanks to Mrs. H. O. Barker, Rapides Parish President, and the members of Rapides Auxiliary for their courtesy and for the many delightful hours I have spent with them.

Before leaving you, may I thank you one and all for your loyal support during my term of office. I shall always think of this year as one of my happiest memories. My best wishes to my successor in office and may she also enjoy the friendship and comradeship you so freely have given me.

Mrs. Frederick G. Ellis,
President.

RECENT MEETINGS

CALCASIEU PARISH

A luncheon meeting was held at the Bel Community Home, Tuesday, March 13, with Mrs. Walter Moss, presiding.

Mrs. J. Y. Garber was appointed Chairman of the Committee on Beautification of the Lake Front. Mrs. George Kreeger was appointed Chairman of the Committee on Child Welfare Work.

Mrs. Firzenreider gave a very interesting talk on the care of azaleas.

Jefferson Davis Parish entertained Calcasieu Parish doctors and their wives at Welsh, Louisiana, on "Doctors' Day," March 30, 1939. Recitals and musical numbers were presented. At 8:00 p. m. a special mention was given over the radio by the Reverend Johns, brother of the late Dr. F. M. Johns of Tulane University.

Mrs. L. L. DiGiglia,
Press and Publicity Chairman.

VERMILION PARISH

Organization of the Auxiliary to the Vermilion Parish Medical Society was completed at a meeting held Tuesday, March 28, at the home of Mrs. Robert Young in Abbeville, under the direction of Mrs. Roy Carl Young, Organization Chairman of the State Auxiliary.

Officers elected at the meeting were Mrs. Robert Young, Abbeville, president; Mrs. J. E. McClellan, Abbeville, vice-president; Mrs. Shelley Mouledous, Abbeville, secretary-treasurer; Mrs. Adolf Landry, Delcambre, chairman of press and publicity.

Mrs. Adolf Landry,
Press and Publicity Chairman.

OUACHITA PARISH

At the regular luncheon meeting there were 17 members present. Mrs. Coon, *Hygeia* chairman, gave a splendid report. The auxiliary has subscribed 100 per cent, and the magazine was placed in all the schools in Ouachita Parish, in the Y. W. C. A., Brown Paper Mill, Red Cross, and the Monroe Public Library. Ouachita Parish received honorable mention in the national *Hygeia* contest.

The program included a lecture on "Blindness" by Dr. P. L. Perot; a speech by Mrs. King Hunt, president of the P. T. A. Council, on "How the Medical Auxiliary Can Aid the P. T. A."

Mrs. R. W. O'Donnell,
Press and Publicity Chairman.

Respectfully submitted,
Mrs. R. T. Lucas,
Press and Publicity Chairman.

BOOK REVIEWS

Drug Addicts Are Human Beings: By Henry Smith Williams, M. D., B. Sc., LL. D. Washington, D. C., Shaw Publishing Company, 1938. Pp. 273. Price $2.50.

This book points out that the Harrison Act is essentially a pure revenue measure and that it, being a Federal law, has no control whatever over the practice of a profession such as medicine. But the Narcotics Bureau ignores the decisions of the Supreme Court in this matter, and assumes authority to prevent physicians from attempting to cure addicts, unless the addicts are under forced confinement. Thus, without warrant of law, a Code has been developed by subordinates in the Treasury Department (Commissioner of Internal Revenue, Deputy Commissioner of the Narcotic Division of the Prohibition Unit, Commissioner of Prohibition) and fostered in later years by the Commissioner of Narcotics.

This Code, emanating from an executive department, without legislative warrant, is unconstitutional in its essence. The result of this illegal Code is to foster and maintain the great American Billion Dollar Drug Racket. The mechanism of this is as follows: The high tax imposed has enormously reduced legitimate importation of narcotics; it has produced a great illegitimate industry: smuggling narcotics; the restrictions on the physicians' use of narcotics have resulted in another great illegitimate industry: peddling narcotics.

There are about a million addicts in the U. S. A. These people are human beings who have fallen victims to a vicious habit, but so long as they could get their dope promptly at a reasonable price, they were law abiding, useful, and reasonably happy people. The Harrison Act has made criminals of them. The price of dope is out of their reach, so these unfortunates are driven to desperation. They commit crimes in order to get their dope. Before the Harrison Act there were no federal narcotic prisoners; ten years after the passage of the Harrison Act, one-third of all federal prisoners were narcotic offenders.

The remedy suggested is simple: to allow the Harrison Act to operate as it was designed: all victims of drug addiction, "narcotoxia," would come under medical supervision, and on prescription would be supplied, at slight cost, with whatever medicine they needed at the drug stores. Impure morphine which the dope peddler sells for a dollar a grain would be replaced by the pure product which would cost the patient only two or three cents a grain. The peddler, unable to meet such a price, would go out of business, and the great American drug racket, the billion dollar illicit industry, would cease to exist.

Clyde Brooks, M. D.

Spinal Anesthesia: By Louis H. Maxson, A. B., M. D. Philadelphia, J. P. Lippincott Co., 1938. Pp. 409. Price $6.50.

This is an excellent comprehensive treatise on the subject of spinal anesthesia. In a methodical order, the history, anatomic considerations, physical factors, and drugs are scrutinized. It is replete with details.

Every surgeon who uses spinal anesthesia, even though the giving of the anesthetic is assigned to the anesthetist, should certainly read this volume. Any conceivable complication, pre- and postoperative orders and the efficiency of this type of anesthesia in the various specialties is contemplated. Especially valuable and worthy of posting in the operating room are the part of chapter eight which deals with resuscitative methods and chapter eleven which considers the contraindications.

Quotations from various authorities in the field of spinal anesthesia are interspersed throughout the book and this detracts from the original point that the author was trying to make. It becomes increasingly hard to understand when the quoted authors differ among themselves.

M. Lyon Stadiem, M. D.

Diseases of the Ear, Nose and Throat: By Francis L. Lederer, B. Sc., M. D., F. A. C. S. Philadelphia, F. A. Davis Company, 1938. Pp. 835, illus. Price $10.00.

Both the author and the publisher deserve the highest tribute for this masterpiece of medical literature. The text is lucid and concise. Mental gymnastics are not required for its understanding. Useful diagrams convey information quickly. Beautifully executed plates enable the reader to keep the subject matter clearly in mind. Photographic reproductions of pathologic specimens and patients form a veritable museum of clinical material.

No feature has been neglected to make this a most useful reference work for the trained specialist as well as a text for detailed study by the student. It is highly commended to both.

H. L. Kearney, M. D.

The Anus, Rectum and Sigmoid Colon: Harry E. Bacon, M. D. Philadelphia, J. B. Lippincott Company, 1938. Pp. 855. Price $8.50.

Recently a considerable number of textbooks dealing exclusively with diseases of the anus, rectum and colon have been published and the literature on this subject now rivals that of most specialties. Proctology has attained an important position as a specialty in medicine. This is evidenced by the number and size of textbooks which have recently appeared on this subject, the formation of special medical societies for the discussion of proctologic subjects and the appointment to teaching institutions and hospital staffs of men who limit their work to that particular field of medicine.

This book is excellent in every respect. It is well illustrated and contains a complete bibliography. The subject matter is discussed clearly and no details have been omitted. It is well arranged and classifications have been devised wherever possible in order to clarify certain subjects.

This is an excellent book and is worthy of praise. It can be used as a textbook or a reference book for the general practitioner and the specialist.

Warren Hébert, M. D.

Handbook on Diseases of Children: By Bruce Williams, M. D., M. R. C. P. Lond. Baltimore, William Wood, 1936. Pp. 329. Price $4.00.

This small volume attempts to give a brief outline of the etiology, diagnosis, and treatment of the commoner diseases of children. The discussions are entirely too brief to be used as a general textbook for reference in regard to pediatric problems. The book would be of little value to a pediatrician; however, as a ready condensed handbook for the general practitioner, I believe it would serve its purpose better. The subject matter is very nicely organized. The outlines of therapy are not as complete as would be generally desired. The subject of artificial feeding and dietetics is too general to be of much value.

Roy E. de la Houssaye, M. D.

Treatment by Diet: By Clifford J. Barborka, M. D., B. S., M. S., D. Sc., F. A. C. P. Philadelphia, J. B. Lippincott Co., 1937. Pp. 600. Price $5.00.

This revised third edition represents an effort to bring the second edition up to date by adding a discussion of the clinical aspects of the vitamins, the use of protamine zinc insulin, and a broad consideration of the obesity problem. Those familiar with the earlier editions need not be reminded of the concise, easy style in which the matter is presented. The excellent form of approach has been retained. All of the really major dietary problems have been adequately treated with a keen regard to their relative importance.

The text is to be highly recommended for the student, practitioner and dietitian.

R. H. BAYLEY, M. D.

The Practice of Medicine: By Jonathan Campbell Meakins, M. D., LL. D. St. Louis, C. V. Mosby Co., 1938. Pp. 1413. Price $12.50.

It is not very long ago that this reviewer had occasion to review the first edition of this extremely good book. Noteworthy at that time was the comment concerning the invaluable information obtained from the numerous illustrations,—a departure from the usual textbook of medicine.

The introduction to the practice of medicine as contained in Chapter I is a magnificent presentation of the relationship of patient and physician; of the value and significance of symptoms and signs and of the diagnosis, prognosis and treatment of disease. Another very important and essential feature of the book is the effort to explain the various subjective and objective findings in specific diseases.

This second edition, so quickly published, is sufficient proof of a splendid task by one of the foremost clinicians and investigators of our day. In this second edition an effort has been made to correct the errors inherent in a first edition. Additions, alterations and deletions in text and illustrations will be found in an effort towards clarification and in an attempt to bring the medical data up to date.

I. L. ROBBINS, M. D.

Diseases of the Chest and the Principles of Physical Diagnosis: By George W. Morris, A. B., M. D., and H. R. M. Landis, A. M., M. D., Sc. D. Philadelphia, W. B. Saunders Co., 1938. Pp. 1019. Price $10.00.

When a book has attained a sixth edition there is very little that one need say that has not already been noted often by many reviewers. Especially is this true when the book is one that has become a classic in its field. All that needs to be noted is that this great, authoritative volume has been completely revised to bring it "abreast of the times." The chapter on the electrocardiograph has been rewritten by Dr. Thomas M. McMillan and it has been well done.

I. L. ROBBINS, M. D.

Diseases of the Nose, Throat and Ear: By W. Wallace Morrison, M. D. Philadelphia, W. B. Saunders Co., 1938. Pp. 674. Price $5.50.

A concise and practical book written particularly for the undergraduate medical student and general practitioner. A brief review of essential surgical anatomy is presented, followed by a consideration of the physiology of the parts concerned. Pathologic changes are described and the modern viewpoint is discussed with clarity and precision. Those treatment methods which have stood the test of time are preferably discussed and the simpler operations are considered fully.

F. E. LEJEUNE, M. D.

Classic Descriptions of Diseases: By Ralph H. Major, M. D. Springfield, Ill., Chas. C. Thomas, 1939. Pp. 727. Price $5.50.

"That is a good book which is opened with expectation, and closed with profit." Major's is such a book. We open it with the expectation of finding worthwhile excerpts from the classical descriptions of diseases; we find them, and close the book with profit. We can unhesitatingly refer students to it, knowing full well that they will be enriched by the original descriptions found therein. Teachers have increasingly followed Osler's example in referring students to original sources for "to find a a new idea, seek out an old account; the old ideas will be found in the new accounts."

The value of this second edition is increased by the correction of the few errors contained in the former edition, by the addition of new material and the amplification and improvement of a number of the biographic sketches. This book gives both teacher and student ready access to original sources. The abundance of carefully selected portraits adds to the appeal and value of this excellent and serviceable book.

B. B. WEINSTEIN, M. D.

Cancer: Its Diagnosis and Treatment: By Max Cutler, M. D., and Franz Buschke, M. D. Philadelphia, W. B. Saunders Co., 1938. Pp. 757. Price $10.00.

This is a well written, well organized, and well illustrated book of six hundred and eighty-seven pages of text. The literature has been adequately reviewed and interpreted in the light of the authors' not inconsiderable experience, and a useful bibliography has been compiled.

Malignant tumors are discussed in relation to the tissue from which they originate as well as to their geographic location in the body. The signs and symptoms, the various methods of making the diagnosis, the relative radio-sensitivity of the tumor and the surrounding tissues, as well as a fair evaluation of the relative therapeutic merits and disadvantages of surgery and radiation are given for each of the tumors which occur in the human body.

It is a book which will undoubtedly be useful both to the medical neophyte as a comprehensive introduction to malignant neoplasms, as well as to the more experienced practitioner as a source of concise information about a specific malignant tumor.

WOOLFOLK BARROW, M. D.

A Manual of Practical Tropical Sanitation: By J. Balfour Kirk. Baltimore, William Wood and Co., 1937. Pp. 300. Price $3.00.

This book provides ample, yet concise information pertaining to problems of health in tropical areas. It is primarily intended for sanitary inspectors, but, since it is written in plain language and not in technical terms, managers, engineers and even laymen will find valuable information on the prevention of diseases in regions where sanitary systems are not readily provided.

Chapters on elementary biology, anatomy and physiology are followed by a consideration of communicable diseases, their cause, symptoms, spread and prevention. General hygiene is taken up in regard to disinfection, disposal of sewage and refuse, housing, food and drink.

A few minor errors were noted. On page 48, amebic dysentery is stated to show no signs of epidemicity, and yet epidemics do occur. Trichinellae (p. 198) do not lay eggs and trichinous pork cannot be specifically recognized by the naked eye.

Willi Sawitz, M. D.

Surgical Anatomy: By C. Latimer Callander, A. B., M. D., F. A. C. S. Philadelphia, W. B. Saunders, 1939. Pp. 858. Price $10.00.

In preparing the second edition of this outstanding volume on surgical anatomy, the author has deleted obsolete and extraneous material from the first edition and has so rearranged the illustrations that, even with the new text and many new illustrations, the book is smaller than the first edition.

The surgical anatomy of importance in the performance of the newer operations is included and in many instances is presented in such a way as to constitute a description of the operative surgical procedures applied to the anatomic structures.

Ambrose H. Storck, M. D.

Feminine Hygiene in Marriage: By A. F. Niemoeller, A. B., M. A., B. S. New York City, Harvest Press, 1938. Pp. 155. Price $2.00.

This volume of 155 pages, written by a man experienced in matters of sex, is published as a guide to married women in matters of hygiene concerning their sexual organs. It consists of a general discussion of the female organs, their functions and various disorders, including the diseases prevalent among married women during their active sexual life with special emphasis upon irregularities of menstruation, venereal disease and pregnancy.

A foreword is given by a urologist formerly with the United States Government. The book is written in terms understandable by the laity but is rather difficult to follow clearly throughout.

The author has a fairly good lay conception of the pathology and physiology of female genitalia but many of his medical statements are open to question. While he vigorously urges the readers not to accept the information set forth as didactic from a medical point of view, he gives the reader the impression that the advice he offers is thoroughly sound in this respect. And, indeed, at times such admonition might be harmful should the reader follow his instructions thoroughly.

There is too much home treatment of various disabling conditions presented in this book for widespread usage, and, while the reader is repeatedly referred to the physician if some complication arises, it seems to the reviewer that too much reliance on the diagnosis is left to the reader when management by a physician should be instituted at the onset of the disorder in question. In one passage, for example, the pregnant woman is told that she may be adequately delivered by a midwife of good reputation but that "if the case promises to be a difficult one, a doctor or even a specialist should be employed." It is difficult to see how even a well educated woman can make this decision as to the ultimate ease or difficulty of delivery.

Because of this and similar discrepancies, the volume, in the reviewer's opinion, cannot be recommended for general use.

John Conant Weed, M. D.

The Pituitary Gland: An Investigation of the Most Recent Advances: Proceedings of the Association for Research in Nervous and Mental Diseases. Baltimore, Williams & Wilkins Co., 1938. Pp. 764. Price $10.00.

This volume contains the proceedings of the Association for Research in Nervous and Mental Diseases, December 28-29, 1936. It is divided into three portions. In Section 1 is an exhaustive treatise on the anatomy and cytology of the pituitary gland. The plates, halftone and colored, are of the highest quality and depict clearly the gross relationship or microscopic structure of the pituitary gland in man and animal.

Section 2 is devoted to the physiology of the hypophysis. Each hormone elaborated by this gland is described by accepted authorities in this field, as well as the relation of the gland to other functions and parts of the body.

Section 3 is devoted to the relationship of the pituitary gland to certain definite clinical entities. Diagnosis and treatment of these conditions are described in detail.

A most thorough, exhaustive description of the pituitary and its secretions is contained in this volume of 724 pages. It is recommended very highly to gynecologists, research workers and internists and is an excellent reference volume for any library.

Conrad G. Collins, M. D.

PUBLICATIONS RECEIVED

P. Blakiston's Son & Co., Inc., Philadelphia: English, German, French, Italian, Spanish Medical Vocabulary and Phrases by Joseph S. F. Marie.

Paul B. Hoeber, Inc., New York City: Student's Handbook of Surgical Operations by Sir Frederick Treves, Bart., G. C. V. O., C. B., LL. D., F. R. C. S., sixth edition, revised by Cecil P. G. Wakeley, D. Sc., F. R. C. S., F. R. S. E., F. A. C. S. (Hon.), F. R. A. C. S., Fellow of King's College, London.

Lea & Febiger, Philadelphia: The Principles and Practice of Ophthalmic Surgery by Edmund B. Spaeth, M. D.

The C. V. Mosby Company, St. Louis: The Vaginal Diaphragm by Le Mon Clark, M. S., M. D.

W. B. Saunders Company, Philadelphia: Gonorrhea in the Male and Female by P. S. Pelouze, M. D. Clinical Biochemistry by Abraham Cantarow, M. D., and Max Trumper, Ph. D.

The Williams and Wilkins Company, Baltimore: Failure of the Circulation by Tinsley Randolph Harrison, M. D. Angina Pectoris by Heyman R. Miller, M. D. The Clinical Diagnosis of Swellings by C. E. Corrigan, B. A., M. D., F. R. C. S. (Eng.).

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INAUGURAL ADDRESS*

CLARENCE A. LORIO, M. D.
BATON ROUGE

It seems that an inaugural address should be an informal talk, with the stress placed on the success of the previous administration, rather than a lengthy dissertation on the hopes of the future. I realize to the fullest extent the task imposed upon me by my confreres of the Louisiana State Medical Society in electing me to succeed my good friend, Dr. Joseph A. O'Hara, who has served the Society with such distinction during his administration.

It would be the height of ingratitude if I failed at this time publicly to thank the Louisiana State Medical Society for the honor that they have bestowed upon me in selecting me as the sixtieth president of the Society. The honor is one that I treasure, and I trust that my work for organized medicine during my incumbency will be of such a nature as to prove in no uncertain way my deep and lasting gratitude.

This Society has shown a normal growth from year to year, and it is my hope that I can reach in some manner every one of the physicians in Louisiana who have not affiliated with our organization. To that end I propose to visit in person every parish in the state, attend a meeting of every parish and district society, and make every effort to convince the rank and file of our profession of the benefits that can be derived from membership in the Louisiana State Medical Society.

The physicians of Louisiana work as a united and coordinated body striving to attain that common goal, the relief of suffering humanity.

From time immemorial the indigent sick have been regarded as the physicians' problem, rather than the responsibility of the community, where it justly belongs. From my own observations, there has never been a time when the physicians of Louisiana have side-stepped this problem. Speaking for the Society of which I shall soon be the head, I am proud to say that this policy will be continued, even though I know that on many occasions the privilege has been much abused.

The people of Louisiana are grateful to the doctors for their care of the indigent sick and the underprivileged youth; they are grateful to this body, the Louisiana State Medical Society, for its untiring efforts in maintaining the *entente cordiale* that exists between physician and patient, for they realize that severing this relationship will be the opening wedge of socialized medicine.

On this point I am optimistic, for I do not believe that the people will soon forget the services of the physicians, nor do I believe that the federal government can disregard the rights and privileges of organized medicine. This body is not militant, and has no desire to engage in verbal warfare with the constituted authorities.

In all matters in which there is a difference of opinion between the government and this Society, I believe that a personal contact is the only means of properly protecting our interests, and I shall be ready when this condition exists to make a visit to Washington and lay the matter before the proper authorities for an amicable adjustment.

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*Delivered before the sixtieth annual meeting of the Louisiana State Medical Society on Tuesday, April 25, 1939, at Alexandria.

At the proper time, I shall make every effort to have a physician appointed as a member of the State Hospital Board. While this board is functioning satisfactorily at the present time, with the aid and counsel of the Advisory Board composed of physicians, it will be to the advantage of this service to have a member of the Louisiana State Medical Society on the executive board. His intimate knowledge of hospitalization will be of great benefit in the deliberations of the board.

May I compliment the Woman's Auxiliary for the splendid service that they have rendered in the cause of organized medicine. This splendid band of women, in spite of great difficulties, has established an organization, of which we are justly proud, and I am relying upon them to continue their effective work during my administration.

The voice of the individual physician is heard through his chosen representative, the councilors and the executive committee; to you I look for guidance and advice; of you I ask cooperation. The component societies are my special charge and I will appreciate a report from each society as often as possible.

As a concluding tribute, I should like to say a word about the Past Presidents' Council. This organization is composed of men who have all received the highest gift within the power of the Louisiana State Medical Society, and having served as president really know the problems that confront the Society. I am depending upon them collectively and individually for guidance during my term of office.

The final words of the Oath of Hippocrates are: "While I continue to keep this Oath unviolated, may it be granted to me to enjoy life and the practice of the Art respected by all men in all times! But should I trespass and violate this Oath, may the reverse be my lot!" I have made few promises in this brief inaugural address, but those few I propose to keep as inviolate as the Oath of Hippocrates.

ANNUAL ORATION*

JUDGE WILLIAM H. BYRNES, JR.
NEW ORLEANS

I notice that I have been classified in the program of this convention as an orator. I assure you that I can lay claim to no such distinction. I wish, however, to express my gratitude at being given the opportunity of addressing a gathering of one of the most learned and scientific of all professions. I would not have accepted the invitation if I wished merely to deliver a speech. There are hundreds and hundreds of men in Louisiana who, by study, practice and natural gifts, are far better speakers than I am. I accepted it because I desire to discuss with you the most vital question that is confronting our nation at this time.

I hope to be able to reach this discussion by easy stages; so, therefore, I must first pay to this assembly of doctors, a heartfelt compliment. I do not believe that a more representative gathering of men, who, by study, training, experience, and habits of thought, are more capable of solving the problems that confront society than you are, if you will but consider it. Therefore, I am indeed glad to be here tonight.

I am also grateful for the opportunity of appearing on the same platform with the learned, energetic and efficient Dr. Joseph A. O'Hara, who retires tonight from the presidency of your organization. I have known Dr. O'Hara since 1904, when I returned from Georgetown University. I have personal knowledge of his ability, his unbounded charity to the poor of the district in which I live, to whom he has given his medical skill and learning during all of these years, without hope of financial reward, but merely to satisfy the desires of his great heart to alleviate suffering and help his fellow man. I know of no man whose personal life presents a more perfect illustration that the medical profession need not be regimented or socialized in order to care for the poor—the needy, the unfortunate members of our society.

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*Annual oration delivered before the sixtieth annual meeting of the Louisiana State Medical Society on Tuesday, April 25, 1939 at Alexandria.

So I say to you tonight that I am sincerely proud to be on this platform with such men as Dr. Joseph A. O'Hara and Dr. Jerome Landry, also my life-long friend. I wish that my ability was commensurate with their worth and the great intelligence of my audience.

Some sixty years ago, almost to the very day, the great statesman, William Ewart Gladstone, on April 5, 1879, delivered an address in Kibble Palace, to the faculty, students and friends of the University of Glasgow in which he dwelt on the then rising dignity of the medical profession.

> "The medical profession offers at the present time, even to the uninstructed eye, an object of yet livelier interest. Here indeed, much is changing, but all in the direction of advance. The dominant activity of the age, addressed to conquest over nature, continually enlarges the knowledge and the apparatus lying at the command of the physician and the surgeon. There was a time when the writer of "Gil Blas" could represent his hero, who had been taken ill at an insignificant town, as having easily and rapidly recovered because by good fortune there was no doctor in the place. Such a reason, if any novelist could now think of using it, would slay nothing but his own reputation. The medical art is now universally recognized as having achieved much for the benefit of mankind and as being honestly and reasonably set on learning more."

And then, good old Gladstone continues, after many words of praise, with this statement, which I am sure will arouse your risible faculties. Think of this grand old gentlemen, saying in deadly earnest, of the speed and the hurly-burly of life in dear old Scotland in the year 1879, in the midst of the solemn and sacred precincts of old Glasgow University:

> "The pace at which we live is quickened; the demands both on thought and emotion are heightened without any corresponding increase of natural force in the organs or faculties which are to meet these demands, while the mind asks so much more of the frail flesh, its halting partner."

What would the great English statesman say if he could appear on this platform tonight? First, I believe that he would be bewildered at the giant strides which medicine has made during the brief sixty years that have lapsed since he gave his address that night at Glasgow University. He would be completely astounded at what surgery is capable of doing in the service of mankind today. His imagination would be intoxicated at the truths which have been learned from scientific study on the human body. His wonder would be held captive by the achievements of such members of the profession as are gathered in this hall tonight. If this grand old statesman said, sixty years ago, that the pace of life was quickening, I am sure that he would be startled by the rate of speed in which we are now living. I think that there is but one phrase which describes it,—our daily lives are moving with "kaleidoscopic rapidity"!

What would he think of the marvelous instruments of your profession? The machines and the methods which are in daliy use, enabling the physician correctly and accurately to diagnose nearly all of the ills of suffering humanity. Indeed, gentlemen, I do not wish to flatter you, but certainly, no other profession has made such great advances in these short years as has been accomplished and achieved by the medical profession.

The learned Mr. Gladstone, on that same night, gave utterance to a fact, which the members of every profession should bear constantly in mind. I believe it is equally true concerning the medical profession as it is of the legal profession—and all other professions: "That greatness is scarcely compatible with a narrow concentration of intellect—even to one family of subjects."

He later says: "It is difficult, perhaps, for those to whom one pursuit and one set of subjects are to be their daily bread, to know how far they may, with safety, indulge in collateral studies; but there can hardly be a doubt as to the benefit of these, if they can be had. An absolute singleness of pursuit almost means a mind always in one attitude; an eye that regards every object, however many sided, from one point of view; an intellectual dietary beginning and ending with one article."

I have quoted this last statement of Gladstone for the reason that I desire to impress upon you the absolute necessity for you gentlemen of the medical profession to turn upon a social problem which, in my opinion, is the most important problem in our nation today,—a problem which must be solved. Your trained minds, your powerful intellects, and your habits of concentration are needed to help solve it. Unless it is solved, we cannot continue to exist as a nation. It is more important than war. It is the problem of unemployment.

I know that for the past few years there have been tons of literature written concerning socialized medicine,—the regimentation of doctors. There have been millions of words spoken in public addresses and over the radio and I am certain that nearly every doctor present here tonight could ably and intelligently discuss the pros and cons of this most absorbing question. Yet in all the magazine articles I have read, and all the addresses over the radio that I have heard, I have not heard a single person discuss the real cause of the agitation for socialized medicine, and the regimentation of doctors. The answer is simple. The cause of this agitation is unemployment. It seems to me then to be the sensible thing to attempt to eliminate the cause. Therefore, on this most important subject I beg of you to give the nation the benefit of your intelligence and your mental force and power, as well for the public good as for your own advantage.

I am speaking only as a layman. But I can positively assert that every human being with whom I have conversed expressed the highest regard and admiration for the doctors, and that all of those persons stated when they could afford it, they desired to be attended by the physician or the surgeon of their choice. It is such a natural statement, that it is impossible to contradict it or even to argue against it. The trust, the confidence, and you might add, the love and devotion between a doctor and his patient precludes the idea of any individual preferring socialized or regimented medical attention.

Remember, however, that you have in the United States tonight, as I stand here on this platform talking to you, more than fourteen million men and women without jobs. If you allow the very small and conservative average of three persons depending on each worker, we must admit the staggering total of upwards of fifty million of our population who have no money to pay for medical attention or to buy drugs, or anything else without government aid.

Now it follows that these people must have attention. The welfare of the nation, the prevention of epidemics, and every consideration of humanity requires that these worthy but unfortunate members of society must be treated. The only solution, therefore, which the government has been able to discover, is the socialization of medicine. I heard a young lawyer state his feelings on the subject very aptly. He said: "If I am in the army and I am wounded on the battlefield, I am, by force of necessity, obliged to receive treatment from the doctors which the army provides. I might like them; I might dislike them; I might have confidence in them; I might have no confidence in them, but still I must submit to their treatment. It is true, if it were possible, I would select my family physician, whom I have known since childhood, and, in turn, would be guided by him in the selection of a surgeon or any other specialist that my condition demanded."

I assure you the public bears no ill will to the doctors. On the contrary the average man or woman is most appreciative of the medical care and attention which he receives. So this question of socialized medicine is distinctly an economic one. It is a question based on stern necessity. People who are not working cannot pay doctors and dentists any more than they can pay the landlords and the butchers. So, gentlemen, in my opinion, it is not only advantageous to yourselves, but it is your duty, as members of society, to discuss the problem of unemployment and to give it your best thought in an attempt to put men and women back to work at a living wage.

Today unemployment is the fundamental evil of American society. We have reached the point when something must be done.

The government has already spent over eighteen billions of dollars in attempting during the past nine years to bring back prosperity. Nothing has been accomplished to afford permanent relief. The condition is getting worse each year. Permit me, for the next few moments, to call your attention to some salient facts which I think will impress upon you the seriousness of the present situation.

Today, according to the most reliable statistics which I can find, our unemployed citizens number more than fourteen millions. At the close of the colleges and universities, last year, more than 100,000 men and women reached degrees. What has become of these men and women? How many of them are employed? It is estimated only one out of fifteen! Again the figures of the unemployed do not include the professional men and women,—doctors, lawyers, dentists, engineers, surveyors, architects, accountants,—or the stenographers, trained nurses, and members of other professions whose incomes have been so reduced that they are practically unemployed.

It is manifest that we cannot go on each year decreasing the number of "jobs" by using labor-saving devices, and then expect to have enough jobs to go around. Yet most of our economists refuse to see this very obvious fact.

It follows then that if labor-saving devices are the real cause of our predicament, we must find some method of making the labor-saving devices provide work for the flesh and blood men of the nation. I submit for your thoughtful consideration a proposal or plan which I have been advocating for the past few years:

> Classify machines into two general groups, those beneficial to labor, and those detrimental to labor. Compel labor-saving machinery or the detrimental class, which do work, which, prior to their invention was done by man, to pay to the national government one cent (or more if necessary) a day for each man's work done.
>
> The work of more than five billions of men is being done each day in the United States, at the present time, by labor-saving machines. Therefore, the income from these machines would be thirty million dollars a day.
>
> The national government should dedicate this fund to the doing of new work, work not now being done by private enterprise. In the doing of new work, again use labor-saving devices and again make them contribute in proportion to their man power. The more labor-saving devices used, the greater the fund, and the more new work which can be done.
>
> The amount of new work approximates the infinite and can never be exhausted; thus, the labor-saving machines which do men's work would provide the funds with which to put men to work and keep them working.

Now let me ask you this question: How in the name of "common sense" can the number of people who are unemployed be lessened, if, each year the number of possible jobs are being decreased by the millions and at the same time each year, millions of new workers are added to the workers of our nation who must find work? Does it require an "Einsteinic" intellect to foresee the inevitable result? Unless some drastic steps are taken to make the labor-saving machines themselves create new work, the next decade will find in this country from thirty to forty million unemployed persons, and with each decade the situation will become worse and worse.

My plan or suggestion is very simple. I have received hundreds of letters from all parts of the United States approving it. It is this: Divide machinery into two main groups. In the first group, place all machinery or machines which do work that man can do, and produce or manufacture products that man can make by hand. These machines should be termed labor-saving devices and should be forced to contribute to the government a fixed amount per day, for each man's work done by them.

In the second group, place those machines which do work that man cannot do, or which produce or manufacture products which man cannot make by hand. Machines in this group would not be classed as labor-saving devices and would not be taxed or forced to make a contribution of any kind to the government, because these machines actually put people to work.

I think one illustration will convey to you what I mean by the foregoing classification. Men cannot generate electric current by the use of their hands. Therefore, an electric power house that produces electric current, would be doing work that man cannot do and would be placed in the beneficial class. The current which these machines create, lights our cities, runs our street-cars, and operates our factories. Thousands of men and women are given jobs by the use of it.

Now, for an example of the labor-saving class of machinery. If I take the electric current which is produced in a power house and operate a drill with that current, and the drill is used to tear up the streets of New Orleans, doing the work that it would take twenty men to do, then the drill would be a labor-saving device, and the operator or user of that drill should be compelled to pay to the government a certain number of cents each day for each man's work done by it. For example: If the rate agreed upon was five cents for each man's work done, the operator of that drill would be obliged to pay the government one dollar for each day's work done by it. In America at this moment the work of more than five thousand million men is being done by strictly labor-saving machinery under the foregoing classification. A small tax of one cent per day for each man's work done would create the huge fund of fifteen billion dollars a year. Remember that it would be an annual income.

The money collected from the tax or contribution of these labor-saving machines would be used solely and only for the benefit of the workers of the nation. That is, it would be used to create new work, not now being done by private enterprise. The amount of beneficial new work which could be created approximates the infinite. For example: Here in our own City of New Orleans five hundred millions of dollars could be advantageously expended for the rebuilding of our poorer districts. Think of what a paradise you could make out of it. In the United States, more than a hundred billion dollars could be used for the same purpose.

In the doing of this new work, again use labor-saving devices; in fact, under my plan, the more labor-saving devices you would use, the greater the income would be. The greater the income, the more new work could be done, and thus more men and women given jobs. Why, undreamed billions of dollars could be spent in America for the benefit of our people and our country. Flood control, inland waterways, grade crossings, one hundred foot wide highways, great permanent levees from Cairo, Illinois, down to the mouth of the Mississippi river,—the extermination of pests, the reclamation of our swamps, and thousands and thousands of other projects. All classes of workers could be used. Hundreds of thousands of young men and women could be placed in research laboratories. If the money is forthcoming, it needs but little imagination to develop beneficial work for our people. Every man and woman in America who needed work could be given work at a living wage.

I firmly believe that the mere existence of a fund of this character derived annually, and from a source which would increase year by year, would cause millions of our workers to be drawn back into the natural channels of trade. If this should occur, then the surplus in this fund could be used for old-age pensions, unemployment insurance, free hospitalization, and other benefits for the workers of the nation. But not a cent should ever be diverted from the main purpose of the fund, that is, for the benefit of the workers. Make labor-saving machinery do the work of man, create new work for man, and thus permanently cure the unemployment situation in America.

I know that some persons may think that I am exaggerating the necessity for immediately creating new work. Read what Dr. W. W. Alexander, head of the Farm Security Administration, said just a few days ago, on April 13, 1939:

"FARM PEOPLE 'ON THE MARCH'
'TERRIFYING EXODUS' LAID TO MACHINERY."

(By the Associated Press)

"Washington, April 13—Dr. W. W. Alexander, head of the Farm Security Administration, said today a survey of major farming sections shows there is an 'almost terrifying exodus' of tenants, sharecroppers and small farmers who are being 'squeezed out' by machinery.

"Machines of all sorts—tractors, combines, corn pickers, cotton pickers, cane harvesters—are invading every section of the country, lowering the cost of production and destroying the demand for millions of hours of man labor," he said.

"The administrator's statement was made as Administration Farm officials studied legislative proposals designed to check the displacement of farm laborers. One proposal being considered would require landlords to pass a part of their government benefit payments on to hired help in the form of 'labor payments.'

"Dr. Alexander estimated that nearly 2,000,000 displaced farm people are 'on the march' following the crops from one section of the country to another."

It is important to remember that these farm workers have been recently displaced. They are on the march for what? Each community has thousands of idle hands. It is impossible for them to find work. These two million men, willing and able to work, are jobless. If my plan was adopted, they would be immediately given work at a living wage, and they, in turn, would create a market for the products of their farms, which, even with government benefits, are now barely able to exist.

These farm machines, which do the work of these men, would contribute their share, together with the millions and millions of other machines, to create new work, which, in turn, would enable their owners, the farmers, to sell the products which they produced. It requires no master mind to realize that you cannot sell to people who are not working.

Dr. Jesse Holmes, a great economist and lecturer, a month ago said in New Orleans "that in the year 1900, there were thirty machine men for every flesh and blood man. Today it is estimated that there are three hundred machine men for every flesh and blood man."

According to his statement, it is apparent that he estimates "machine" men are doing the work of fifteen billion flesh and blood men.

I have made my calculations on the estimate that labor-saving devices are doing the work of only five billion men. Suppose Doctor Holmes is correct (which he probably is, because I took the very lowest estimate), think of the huge income which the government would receive if he charged these machines but one cent a day for each man's work performed by them.

Something must be done. We cannot go on as we are now going. Government expenditures have reached the limit—a limit which cannot be exceeded without grave danger to the financial structure of the nation.

The government has taxed every possible thing which is capable of being taxed, except the right thing; the labor-saving devices or machines.

I must bring this address to a rather sudden close. I have already consumed the time allowed to me. As stated in the beginning of my address, I am grateful for the opportunity of bringing this problem to your attention tonight. It is your problem as well as the problem of every other citizen of our country. Put the "flesh and blood" men and women back to work at a living wage,—not less than a hundred and fifty dollars a month, and our financial problems will vanish. Your particular problem of "socialized medicine" will cease to exist when the condition which has caused it has been eradicated. I sincerely ask your assistance. Do not let the communists gain a foothold by spreading their vicious propaganda among these, our unfortunate brethren; brothers who have done no wrong, brothers who are asking merely for the inalienable rights guaranteed by our beloved Constitution, chief among which is the right to work in order to live and raise their families in accordance with the ideals of true American citizenship.

ANALYSIS OF THE HISTORY IN GASTRIC DIAGNOSIS*

OSCAR W. BETHEA, M. D.
NEW ORLEANS

While we, as physicians, should avail ourselves of every diagnostic method, there are no uniformly reliable criteria for the diagnosis of many gastric conditions. The physical examination may reveal very little. The roentgenologic study, though indispensable, may be of limited aid in the milder types of disturbances and even in marked gastric disease may fail to supply essential evidence or may even be directly misleading. The inadequacy of laboratory tests is being stressed in recent literature: For example, an active peptic ulcer may be associated with hypochlorhydria or with perfectly normal gastric fluid.

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*Read before the Orleans Parish Medical Society, October 10, 1938.

THE HISTORY

The purpose of this discussion is to present some suggestions in a somewhat neglected field, that is, an approach to the diagnosis by a study of a history of the case. The subject is too large to present in its entirety and, as will be noted later, only certain phases will be considered.

The family history is important as heredity plays a part here as it does in practically every phase of life. The environment may markedly influence the development of many types of gastric pathology. The active life that is characterized by high tension and sustained intellectual stress tends to hyperacidity, while the slower tempo more commonly results in hypoacidity.

Past illnesses and their sequelae are of much inportance. For example, chronic gallbladder disease tends to hypoacidity while chronic appendicitis or postoperative adhesions tend to hyperacidity. Diarrhea more commonly is an expression of reduced acidity as imperfectly digested food often gives rise to one of the food diarrheas. A history of gastric hemorrhage is quite suggestive of ulcer or malignancy. Dental defects, especially of the type that would cause imperfect mastication, by passing imperfectly prepared food into the stomach tend to develop a high acidity, apparently nature's effort to aid digestion. Just as a cinder in the eye causes a flood of tears, a foreign body (pieces of unmasticated food) seems to call out an excess of gastric fluid. Personal history details as to the excessive use of tobacco (hyperacidity), alcoholics (gastritis) or condiments (hyperacidity); fast eating and irregular eating habits (hyperacidity) should be investigated.

The history of previous studies and the findings may be quite informative. This applies especially to gastric analyses, blood pictures and roentgenologic studies.

Of major importance also is the history of previous therapeutic efforts and their results. For example, if the patient has been given hydrochloric acid and an accentuation of his discomfort resulted, our study is much simplified.

PRESENT ILLNESS

My purpose at this time is to present especially the analysis of the "Present Illness":

Duration of symptoms: For example a case of long standing is not suggestive of carcinoma.

Appetite: Hyperacidity favors rapid digestion, therefore, an early hunger reflex. Also as bland food may give relief, there is apparently a compensatory tendency to take food frequently. Hypoacidity usually means slow digestion and a late or imperfect hunger reflex. These patients frequently lose what appetite they may have, soon after the beginning of a meal. In carcinoma more or less complete loss of appetite is early and persistent.

Weight: In hyperacidity because of rapid digestion and large appetite, there is a tendency to gain. In hypoacidity with its reversed conditions there is a tendency to lose. When a well nourished, full-blooded patient walks into my office complaining of digestive discomfort, I think of hyperacidity. Shakespeare convicted one of his characters of hypoacidity with remarkable vividness when he said, "Yon Cassius has a lean and hungry look." In carcinoma there is a tendency to early, rapid and progressive loss of weight. In evaluating weight changes we must always take into consideration dietetic efforts at therapy.

Weakness: Hypoacidity with its imperfect digestion and limited assimilation not only tends to loss of weight but to general weakness. In carcinoma this is usually rapid and severe.

Character of discomfort: This datum is often difficult to obtain. In hyperacidity, especially if there be a peptic ulcer, there is usually a distinct pain that is described as burning or may be called cutting or sticking in character. In hypoacidity the sensation is rather one of discomfort and is described as a sense of weight or fullness or pressure; one patient has swallowed a hot coal or a paper of pins, the other a brick. In carcinoma the pain is more constant and less related to the intake of food or to other factors.

The onset of discomfort: In hyperacidity it usually appears from one to three hours after meals, that is when the stomach has more or less emptied and is awash with acid gastric juice. In hypoacidity discomfort is usually felt soon after meals as a result of the presence of material that the viscus is unable to handle.

Duration of discomfort: In hyperacidity it usually persists for several hours or until the taking of bland food or of alkalies or the removal of the acid secretion through emesis. In hypoacidity it usually lasts until the stomach has sufficiently emptied—the time of this, of course, depending upon the character and the amount of food taken and the condition of the patient.

What precipitates discomfort: In hyperacidity it may be the taking of acids or sweets, a delayed or missed meal or any factor that results in the presence of undiluted acid in the stomach. In hypoacidity discomfort follows the taking of a sufficient amount of solid food, in other words, it develops as the result of a full stomach.

What relieves the discomfort: In hyperacidity it may be the taking of bland food or alkalies, or emesis. In hypoacidity it may be avoiding any large amount of food or the taking of acids or emptying the stomach by emesis.

Heartburn: I refer here to the burning discomfort in the epigastric region that has a tendency to be referred upward along the course of the esophagus. This is often found in hyperacidity because the frequent presence of highly acid gastric secretion sooner or later may develop an irritated mucous membrane and discomfort may result when this surface is in contact with the hyperacid content. This usually occurs from one to three hours after meals. Heartburn is not so often a symptom of hypoacidity.

Regurgitation: In hyperacidity the material brought up is usually burning in character, may "set the teeth on edge" or irritate the posterior pharynx. The material is usually liquid in character. This regurgitation occurs approximately two or three hours after eating. In hypoacidity the material brought up is generally more or less unchanged food. It is not burning in character but may be "sour." It tends to occur soon after eating.

Emesis: In hyperacidity it is more apt to be burning, liquid material. In the presence of ulcer it may contain blood. In hypoacidity it is usually food more or less unchanged. It may have a sour, disagreeable taste. In carcinoma the vomitus tends to have a foul odor and may contain the characteristic changed blood. It is usually not burning in character as about 75 per cent of these cases do not have any free hydrochloric acid.

The eating of acids: In hyperacidity you can usually obtain a history that acids precipitate or increase the discomfort. Sometimes the patient tells us that he does not eat them without being able to explain why. Nature seems to have robbed him of a desire for that which would cause discomfort. Often we find that some fruit acids, such as grapefruit juice, may be fairly well tolerated. In hypoacidity acids are usually taken with comfort. The patient often "craves" them.

The eating of sweets: In hyperacidity these often precipitate or increase discomfort. As in the case of acids, the patient may give a history of avoiding this type of food without knowing why. In hypoacidity sweets are usually well tolerated though certain items such as syrup may disagree. The usual complaint, if any, is that they "sour on the stomach."

Headache: This is one of the fairly constant findings in either type of stomach disorder. In hyperacidity it may be of the type of migraine, in fact some of us believe that a fairly large proportion of the attacks of migraine are precipitated by hyperacidity. The tendency is for the headache to be acute. It is often associated with nausea and usually develops when the stomach is empty of food. It tends to come on during the latter part of the morning or the latter part of the afternoon. It may wake the patient during the night or the patient may wake with it in the morning. In hypoacidity the headache is usually of the "dull" or "sore" type. It tends to develop soon after meals and subsides as the stomach empties.

Diarrhea: In hypoacidity there is a distinct tendency to diarrhea, the dejecta usually containing more or less undigested food.

This history study may look rather formidable and much time may be spent upon it, often to advantage. In the average routine study these sixteen divisions frequently may be thoroughly covered in a very few minutes. For example, the question is asked "Do you have headache?" The one word headache appearing in the history. If the answer is "Yes," we shall have to determine the type, but if the answer is "No," one of the most important questions of our study has been closed in a few seconds.

CONCLUSION

Even when the gastric analysis reveals normal acid values, treatment based on a history such as has been suggested here may give relief from many distressing symptoms.

DISCUSSION

Dr. Daniel N. Silverman (New Orleans): The discussion of history in the diagnosis of gastric disease is always timely but it is very difficult often to interpret symptoms which cover such a large field as in gastro-enterology.

I always feel better when a patient comes with a long history because I feel the prognosis might not be so bad and also that the patient might not expect a cure, having seen so many doctors before me. However those are important symptoms, question of the long and short history in diagnosis of gastrointestinal disease. Before the middle age period, it has been moved to forty and fifty recently, symptoms of gastric disturbance usually have neurotic origin. However, we must not lose sight of of the fact that in later life the functional disturbance in a neurasthenic individual may become an organic disease. Carcinoma, for example, may have many years of disturbance or gastric distress. In a small series I have had (only five cases) they complained of stomach trouble from four to nine years. They had no demonstrable lesions during that period of time and subsequently died of carcinoma of the stomach.

Recently the gastro-enterologist and others have been awakened by the frequency of acute chronic gastritis as demonstrated by use of the gastroscope, through the ingenuity and enthusiasm of Schindler. It is thought that this diseased group is attended by epigastric distress, principally fullness and distress soon after eating. Borland told me that a great majority of his patients of that type complained of definite fullness and distress just after the ingestion of food. I believe that most of the gastric symptoms that our patients give are due to a motor disturbance rather than to the decrease of acidity which they have and which is determined by gastric analysis.

I am not so definite as Alvarez who says there is no need to make a gastric analysis because it does not help us. I feel that at least it tells us whether to give alkalies or acids in these cases. The difficulty today in our branch is that we know so little about the normal function of the gastrointestinal musculature that whenever we do get the symptoms we are unable to interpret the findings.

Dr. A. L. Levin (New Orleans): The analysis of facts in the history of gastric disease discussed by Dr. Bethea, requires further elucidation. I wish to lay particular stress on some statements commonly made by patients with gastric complaints. Heaviness, fullness, and bloatedness are frequent complaints. In the majority of cases, in my experience, it has no particular relationship to gastric acidity or to the type of gastritis. It is commonly met with in patients who are habitual belchers, a form of a habit neurosis; those patients are air swallowers and their cardiac end of the stomach is always distended with air, particularly after meals; the quantity of air swallowed is often considerable. Their gastric acidity may be absent, low, normal or elevated. The history is characteristic. As a rule, they belch often, loud, at will, independent of meals, and it is tasteless. Under the fluoroscope one can easily recognize the true state of affairs. They are never cured by alkalies, diet or what not, but by suggestion. Explain to those patients that they have formed a bad habit, advise them to discontinue it and teach them to put a cork or any other small article between the upper and lower jaws when the desire to belch comes on, swallowing is then impossible. I have relieved many professional belchers, as I call them, by this simple suggestion. Chronic belchers, I believe, are liable to develop duodenitis, gastritis, and cardio-esophagitis as a result of that frequent forceful mechanical reverse peristalsis.

Dr. Bethea spoke of heartburn as a result of hyperacidity. I am sorry to disagree with him on this point. Heartburn is a misnomer in medical nomenclature. I would suggest the term "hyperesthesia," buccal, lingual, esophageal or gastric. The terminal nerves in a particular area become hypersensitive. The origin of it is still speculative. Chester M. Jones is of the opinion that it is due to increased intra-esophageal pressure. I do not agree with him. How would he explain on this basis the buccal and lingual forms? I am inclined to believe that it is caused by a biliary factor. It is more common in cases of biliary disease and most patients with pyrosis have a low gastric acidity and infrequently total absence of hydrochloric acid. I have relieved many an achylic patient suffering from pyrosis with hydrochloric acid. There is a definite correlation between chronic cholecystitis, hypochlorhydria and pyrosis.

I also want to call your attention to another important complaint in the history of gastrointestinal disease. Whenever a patient complains of weakness, loss of appetite, loss of weight, abdominal discomfort, or periodic pain associated with diarrhea, make an effort to rule out definitely malignancy of the colon, especially if anemia is present and the patient is of cancerous age. I came across several such patients recently, two of whom were only in the third decade of life. Malignancy of the colon is quite common; be on your guard in the presence of above symptoms.

THE HISTORIC DEVELOPMENT AND MODERN APPLICATION OF ARTIFICIAL FEVER*

UPTON GILES, M. D.†
NEW ORLEANS

The employment of thermal measures for their therapeutic value to the human is so old that its origin cannot definitely be traced. Historians generally agree that medicine first became an art among the Egyptians. Hippocrates[22] (460-375 B. C.) may be accredited with the honor of elevating the medical profession to a science. He was an early advocate of clean air, clean food, and clean bodies. He introduced into Greece the bathing custom of the Egyptians and had baths attached to the gymnasiums. He employed hyperthermia and found it useful in treating insane patients having paralysis. Later to others,[22] Galen, Boerheave and Sydenham, came the definite knowledge set forth by "the Father of Medicine."

Chinese, Egyptians, Javanese, Jews, certain negro tribes of South Africa, and Indians of North America from early times have regarded balneotherapy as a valuable therapeutic agent. However, its use by the ancients was so enshrouded in superstitious rites and practices or in gratifying their desire for social pleasure that we find it impossible to ascertain its true origin. Their knowledge of the healing arts might be classed as empirical, the true worth of hyperpyrexia being unknown except as an eliminative agent which promoted good health. Few records being kept of the diseases of these ancients, the fact that hyperpyrexia was used by them is of doubtful value to the modern physician.

Some who claim to be authorities on the subject endeavor to maintain that the early employment of artificial fever was not induced by any desire or need for therapeutic benefit. While I do not presume to decide the worth or worthlessness of this statement, it is known that, by law, the use of the Roman public bath before two p. m. was restricted to the sick.[1] I have also cited the remarkable experience of the most celebrated physician in treating the mentally sick.

The Greek made nature his confederate. No other race was more keenly alive to its physical well-being. In beauty of body, the Greek was peerless, and in this beauty lay the foundation of his strength. He was more complete in his nervous system than any other man in antiquity. It seems natural, then, that the Greeks should be the first to convert their thermal springs into capacious baths.

History records the dissemination of Greek customs and culture westward. Consequently, after the Roman Conquest, 146 B. C., Roman civilization with its marked aspect of physical prowess began, too, to use the public bath. Originating among their primitive ancestors from their fondness for plunging into mountain streams, nature's bathing places were gradually replaced until Roman bath houses became elegant structures, fine examples of Roman architecture, extending over several acres of ground. Agrippa (10 B. C.-44 A. D.) built magnificent baths near the Pantheon. Titus (40-81 A. D.), Caracalla (217 A. D.) and Diocletian (305 A. D.) vied with each other by trying to win public favor by their splendor. Even today in their present ruined condition, these thermae excite the wonder and admiration of posterity.

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*Read before the Orleans Parish Medical Society, November 14, 1938.

†From Department of Physical Therapy, Charity Hospital, New Orleans.

Within these structures, the walls were decorated with marbles, statues, mosaics, and historic paintings. They were provided with washing rooms, courts for games, hot and cold baths, vapor baths, swimming baths, and hot-air baths. In the time of Diocletian, the Roman bath houses had a seating capacity of 18,000.[33]

The baths [1, 22, 33] have also been classed as the tepidarium, or tepid; the calidarium, or hot; and the frigidarium, or cold. These were generally taken in succession. After the bather had been raised to a sweating heat, cold water was then poured upon him as he entered the frigidarium.

With the building of the aqueducts, bringing an abundant water supply to Rome, warm baths came into general use. Italy and distant provinces were not slow in discovering hot and mineral springs within their borders. Famous watering resorts of France, Switzerland, Italy and other European countries today can attest their names to Roman origin. One, the famous Baiae, is now in ruins.

Baiae, like many others, succumbed to the inevitable. Winehouses in connection with the thermae encouraged dissipation and the easy indulgence which encourages social abandon. Thus bathers soon fell victim to licentious habits. Unlike the Greek, decency in the Roman bath was maintained for a period by a double suite or apartments, one for each sex.

The Greek and Roman differed in their appreciation of the bath. To the Greek the gymnasium took precedence, while the Roman regarded the gymnasium as a part of the bath.

In the Middle Ages, customs changed, and the complexities of living brought degeneration in the practice of bathing. From the holy practice of Hippocrates, the thermae had fallen so low that they had become almost nothing more than a meeting place for sensuous indulgence. Then, too, the invasion of the Huns[33] who cut the aqueducts, made further use of the public baths impossible.

Among the Egyptians and most of the early nations, the priests were the practitioners of the healing art. The Jewish priests were also physicians. Although their treatments were often accompanied by various ceremonies, at the same time they enforced judicious regulations to promote personal cleanliness and to avoid sources of contagion.

Among the Indians,[1, 22] bathing, especially in rivers, was practiced. Some tribes in the Rocky Mountains found that hot sweating baths, followed by a cold plunge, were beneficial. Many of the natural hot springs in Nevada, California, and other volcanic regions of the West, are still in use. Some tribes of the extreme north enjoyed vapor baths in huge mud boxes on the edge of a river. Others used tents and steam was raised by means of hot stones or jugs of hot water. The western Indians bathed in a sort of oven, and produced copious sweating by pouring water over hot stones. The Indians of the frontier used a wicker basket covered with skins.

Hot poultices and fomentations have been employed extensively both in ancient and modern times. Sulphur fumigations were among the kinds of ancient baths employed.

Hippocrates, it has already been stated, wrote much of the good effects to be derived from hot baths by preserving health and curing diseases. Galen[22] placed water high in the ranks of materia medica. Celsus[21] prescribed sweating baths, especially for pains in the joints, hysteria, dropsy, convulsions and diseases of the kidney.

There is definite authentic evidence to

prove that heat has been used for therapeutic purposes since the earliest days of medical history. Homer (850 B. C.), and Chinese writings of four thousand years ago are evidence of this fact.

In the field of hyperpyrexia, I will consider its administration first, by chemical or pathologic methods and, second, by physical methods, sometimes known as external and penetrative methods.

PATHOLOGIC METHODS

I have listed, but not in order of their evolution, a number of foreign substances which have been used in the production of hyperpyrexia with varying degrees of success in the treatment of disease.

1. Inoculations of organisms from malaria,[26, 67, 87] undulant fever,[64] rat-bite fever[80] and erysipelas.[88, 89]
2. Non-specific agents such as milk and its proteins,[37, 57] gelatin[40] and peptones.
3. Nucleoproteins which include vaccines of typhoid, dysentery, colon, cholera, meningococcus, staphylococcus, pyocyaneus, streptococcus, pneumococcus, and mixed vaccines.[37, 84, 88]
4. Bacterial extracts and related products, such as tuberculins,[20, 84] Coley's fluid, phylacogens and bacterial autosylates.
5. Crystalloid and colloid substances.[57, 75]
6. Miscellaneous substances, such as subcutaneous injections of turpentine, formalin, and the introduction of foreign material as horsehair which causes the formation of fixed abscesses.[56]

The nineteenth century was marked by advancement in methods of treating by means of artificial fever and the results obtained were so phenomenal that its use soon became an established practice.

Credit for the introduction of malaria therapy is usually accorded Wagner von Jauregg,[85] but now it is conceded that Rozenblum[66] of Odessa was the first. He published this fact in 1876, forty-three years prior to von Jauregg's successful experiments along this line.

Since 1918, malaria therapy's advent into the field of treating paretics, it has been used extensively in Europe and America. Its almost universal usage was attained in such a short time principally because its clinical use requires only simple procedure.[73]

The writings of von Jauregg in 1887 suggested the use of malaria for treating general paralysis, but it was not until 1918 that he began inoculating patients with the disease. For a period since then, malaria therapy was generally approved. Later it was discovered that the disadvantages of its use outweigh its advantages. Infection of patients with a new disease increased the mortality range to 23 per cent with an average of 12.7 per cent. Serious complications arose, resulting in irreparable injury to the vital organs. The desired malarial strain was not always available. Once injected, it cannot be controlled as to degree or duration. Malaria therapy excludes all other forms of treatment. In communities where malaria is endemic, the use of malaria therapy is precluded because approximately 25 per cent of the population possess an immunity to the disease. Beneficial reactions are therefore minimized if not altogether disparaged because of the hazards involved.

While the modern use of artificial fever began with Wagner von Jauregg, history is replete with the names of others whose contributions have helped place this form of therapy on a scientific basis. Dubuisson,[21] in 1816, described temporary remission of several years' duration in general paralytics in whom artificial suppuration had been produced. Jacobi[32] is quoted by Ironside as having treated general paralytics as early as 1854 by means of fixed abscess with associated laudable pus. Mobille[50] in 1852 and Trilat[83] in 1854 had a similar success. Meyer,[49] in 1877, used Autenrieth's ointment for producing suppuration in the treatment of this disease. Koster,[67] in 1848, in a series of twenty-four patients with mental disease, cured seven by intermittent fever. Mottschudoffsky,[67] in 1876, injected twenty-two patients with chronic mental disease with relapsing fever, and eleven were cured. Nasse,[52] in 1890, noted remission of symptoms in general paralytics following intercurrent malaria. Later he reported that of twenty-one insane patients who suffered from typhoid fever, ten were cured of their mental condition. Von Jauregg, in 1890, treated patients with a combination of tuberculin and mercury, some of whom had complete remission. Later he employed typhoid, staphylococcal and streptococcal vaccine. In 1912 he also used milk, egg albumin, peptone, and sodium nucleinate.

PHYSICAL METHODS

The difficulties encountered through the use of pathologic methods in producing hyperpyrexia have led to continuous search for a more satisfactory method of raising the patient's temperature for therapeutic purposes. The result of these has led to the reinstatement of the physical method long lying dormant in the Columbia Journal and to its development to meet the needs of hyperpyrexia today.

I am listing here in chronologic order the names of those whose pioneer work has been of inestimable value to us.

1. The use of hot baths by Phillips,[61] 1883; by Weichbrodt and Jahnel,[91] 1919; Schamberg and Rule,[69] 1926; by Schamberg and Tseng,[71] 1927; by Rosanoff,[65] 1927; and by Mehrtens and Pouppirt,[45] 1929.
2. The use of heated air by Walinski,[90] 1928.
3. The use of high frequency diathermy currents by Neymann and Osborne,[55] 1929, and by King and Cocke,[36] 1930.
4. The use of radiothermy by Whitney,[93] 1928; Hosmer,[31] 1928; Carpenter and Page,[13] 1930; Hinsie and Blalock,[30] 1931, and Bierman,[4] 1932.
5. The use of ordinary electric light cabinet by Kahler and Knollmayer,[34] 1929.
6. The use of electric blankets by Wilgus and Lurie,[94] in 1931.
7. Electrically heated humidified hot air cabinets by Berris,[3] 1933; by Schmidt,[72] 1933; Simpson, Kislig and Sittler,[76] 1933; and Simpson,[77] 1934.
8. The use of short wave electric field (f-12,000,000) which produces heat in the living tissue by electromagnetic induction by Merrimann, Holmquest and Osborne,[47] 1934.

CLASSIFICATION

There are but two kinds of heat employed in the production of artificial fever. The type of apparatus used applies either the principles of internal or penetrative heat or those of external heat. Heat applied to the skin by convective measure heats the underlying tissues by conduction. Therefore, all methods of producing hyperpyrexia may be classified as external or conductive or as internal or penetrative heating agents.

To the class of penetrating heating apparatus belong the long wave diathermy, short wave electric field (radiotherm), and electromagnetic induction (inductotherm). These agents use electrical energy which is absorbed by the tissues and transferred into heat. Appliances which use partly penetrative heat and partly external heat belong to the same classification. Examples of the latter are diathermy machines built into hot air and electric light cabinets and radiotherms combined with hot air blowers for the purpose of keeping the patient dry and surrounding him with an atmosphere of hot air. To the class of external heating agents belong such methods as hot water, the electric blanket, air cabinets heated by incandescent bulbs, and cabinets regulating a current of hot humidified air over the patient.

Neymann and Osborne,[54, 55] in order to ascertain the exact temperatures of different parts of the body, constructed thermocouples and soldered them into spinal puncture needles. They observed that the temperature at the depth is about two degrees warmer than the subcutaneous temperature at the thorax and abdomen and that the more distal the thermocouples are inserted, the less the temperature of the subcutaneous surface. The subcutaneous temperature of the ankle may be as much as three degrees lower than the subcutaneous temperature of the abdomen. The skin surface temperature is lower over protruding and markedly curved parts, such as the nose, ears, fingers, and toes.[6,14] It is higher over muscles than over bones and tendons. Every application of penetrating heat maintains the same ratio between the interior of the body and the subcutaneous surface. In the application of external heat, an inverse ratio is true. During external heat induction, the temperature of the internal organs is lower. When the height of temperature is reached, and the temperature is gradually lowered, the difference between the two medians has become equalized. Likewise, in the application of internal heat, the temperature of the skin has a tendency to rise because the capillaries expand in their endeavor to cool the body. However, the temperature of the skin never exceeds that of the interior.

It has been shown[53] that the reversal of the normal physiologic heat gradients makes little difference to robust patients but others may be poor risks because application of external heat to the surface of the body has a marked tendency to upset the heat regulating mechanism, thus causing heat stroke.

BALNEOTHERAPY

In 1883, Phillips[62] visited Hot Springs, Arkansas, and by immersing himself in hot water, demonstrated that the human body can be raised to a temperature of 103° F. He observed that this procedure increases both pulse rate and respiration.

In 1919, Weichbrodt and Jahnel[91] showed that scrotal syphilitic chancres in rabbits healed more rapidly than usual if the animals were placed in an incubator heated to a temperature of 104° F. Twice daily for thirty minutes, this height was maintained, and the treatment continued for a period varying from three to five weeks. After the second day, the spirochetes gradually lost their motility, became less and less in number and finally disappeared.

Schamberg and Rule,[70] in 1926, demonstrated that hot baths will not only prevent the appearance of experimental syphilitic lesions in rabbits inoculated with virulent treponemas but will also cause testicular syphilomas and secondary syphilitic ulcers to disappear.

Schamberg and Tseng,[71] in 1927, reported favorable results in the treatment of syphilis in human beings while employing this method of immersing the patient in hot water.

Mehrtens and Pouppirt,[45] in 1929, employed hot baths in the treatment of syphilis of the central nervous system and report favorable results. By means of hot baths they were able to elevate to a temperature of 105° F. or more and maintain this elevation for two hours. They proved that oral temperatures are inaccurate and misleading. During the bath a thermocouple was required to obtain accurate rectal temperatures. This method is a great improvement over all others previously in use in that the benefits to the patient are in proportion to the height of the temperature, elevation, frequency and duration of the baths.

A survey of literature seems to conclude that most of these investigators rediscovered a method of curing syphilis by physical measures and that this method had the same general characteristic of one described by Phillips in 1883.

The Japanese in the seventeenth century were the first to employ artificial fever produced by physical means in the form of balneotherapy for mass treatment of syphilis, arthritis, and gout. The efficiency of this method has withstood the test of time for the Japanese are still employing this method. Small individual tanks are placed in the large pools for individual convenience to the patient. If the water happens to be too hot for the particular bather he stirs it with a wooden paddle till it reaches the desired temperature. These baths are usually taken at a temperature between 113 and 128° F. The body temperature is elevated to at least 102.5° and often 104 to 105° F. is attained. The artificial fever continues for some time after the patient has left the bath, then gradually recedes, becoming normal in about half an hour. Patients take three to five baths each day during their course of treatment and experience distinct beneficial results. The general opinion is that hot baths are a valuable therapeutic aid in diseases influenced by a comparatively short period of fever. When it is desired to maintain the fever several hours the patient may experience distressing and debilitating effects. The technic is not simple. The patient must be under constant observation and certain dangers are always present in this type of hyperpyrexia.

However, Lemoine[13] uses hydrotherapeutic measures in treating his syphilitic cases. He submerges the patient up to the neck in a tub of water for ten to fifteen minutes at two day intervals. The temperature of the water ranges from 100 to 112° F. The temperature usually elevates the body temperature to 104° F. His results obtained are short of miraculous.

Although the induction of artificial fever by balneotherapy appears to be an easy and practical method, the contrary is true. It is fraught with dangers, and must be constantly supervised and regulated by physicians and nursing personnel. Hot baths have an injurious effect on the functioning mechanism of the skin. The regulation of the internal temperature of the body is accomplished for the most part by an interplay of the circulation especially in the capillaries of the skin. These, in turn, are controlled, by the nervous system. Hot baths for the production of controlled fever are only of historic importance.

DIATHERMY

Neymann and Osborne,[50] utilizing the discovery of d'Arsonval[15] that high frequency currents produced heat in living tissue, employed a current of 1000 kilocycles (300 meters) as generated by the ordinary diathermy machine to produce artificial fever. They observed that sufficient heat could be induced within the body if means were taken to prevent heat dissipation. The technic consists in covering the greater part of the chest, back, and abdomen with large metallic electrodes. These are then attached to the two terminals of the d'Arsonval current. The electrodes first used to convey the current to the body were flat tinfoil type. The nature of their construction caused a concentration of heat along the edges which had a tendency to produce burns. After experimentation Neymann adopted a fenestrated electrode similar to the ones used by the Germans. This type of electrode by its increased length in proportion to its area minimizes the hazard from burns. The fenestration also decreases the so-called "edge effects" and is therefore more comfortable. In order to maintain close contact between the electrodes and the skin, a large jacket is firmly laced about the patient. Even with this precaution, contact may be broken by movements of the patients and burns may result.

While any of the well-made high frequency machines could produce sufficient current to elevate the body temperature, the average machine of former construction required, in some instances, two and a half to three hours to elevate to the desired temperature of 105 to 106° F. This slow induction is an exhausting experience to the patients. To offset this objection, machines of greater capacities were built. These are capable of delivering under load not less than 7,500 ma. and 100 volt and a frequency or 500 to 1,500 kilocycles. With a machine of this type, it is possible to elevate the temperature to the required degree within one hour's time.

When amperage greater than 4,000 ma. is needed to elevate the temperature, it has been found that an anterior electrode of divided construction is more desirable. This split electrode consists of two segments conforming to the surface of the chest and abdomen. It is so shaped that it avoids the edges of the ribs and the iliac crests. The leads from each segment of the electrode are connected to a rheostat. In this manner the amount of current passing through each part can be regulated accurately according to the varying resistance of the part.

It is necessary to encase the patient in a number of rubber sheets and blankets in order to maintain artificially induced temperature and to prevent its dissipation from the body.

Since the perfection of this type of machine, we are able to control the intensity and duration of heat elevation. Thus patients who require different degrees of artificial fever can be treated and our goal in using hyperpyrexia for other therapeutic purposes is more nearly approached.

There are, however, some disadvantages in this method. In the early days before the present technic was perfected, burns were common, this being due to breaking of contact between the patient's skin and the electrode. Another disadvantage is the uncomfortable feeling of constriction and respiratory oppression which resulted to the patient from wearing of a tight jacket or binder and the heavy covering of blankets. The technician or attending physician is unable to observe the skin beneath the electrodes or manipulate the heavy covering in such a way that he can take blood pressure, make examination, or adequately care for the physical needs of the patient.

The scientific experiments of Epstein and McHugh,[24] and Osborne, Stafford and Markson,[58] have brought into use a modified form of the old diathermy technic which has encountered phenomenal success. This is because the undesirable features of the old were eliminated in the embodiment of the new. They have substituted for the old large ventral and dorsal electrodes those segmented in bracelet or cuff fashion, thus making them adjustable to any desired size. The electrodes are five in number; the large one encircles the abdomen just above the hips and below the lower ribs; the others encircle each arm and thigh.

This change allows for easy flexion of the muscles and excursion of respiration. Skin burns are infrequent. The length of treatment and the number of milliamperes is greatly reduced. The patient is more comfortable than when undergoing treatment with the older type of electrodes.

A celotex box fitting snugly over the patient provides proper insulation and keeps the patient under constant surveillance.

The use of this method of diathermy may be regarded as highly advantageous. Diathermy has been found effective in producing the required degree of heat for prolonged duration. The study of other methods of inducing hyperpyrexia, however, will show that the objections to the use of diathermy are sufficient to discontinue its use in favor of more effective means.

RADIOTHERM TYPE FEVER CABINET

Like all apparatus for producing artificially induced fever, the origin and evolution of the short wave machine (radiotherm) is interesting. Dr. Whitney,[93] of the General Electric Company, observed that men working in the concentrated short wave radio field always ran a slight fever, a little over 99° F. The company built several of these machines for experimental research and lent them to different clinics throughout the country. The unit was never put on the market for general use due to the fact that it was discarded because of inherent faults that are found in the elaborate and exacting tests which the company made with it. It was found that this type of apparatus was unsafe,[53] impractical, and too costly. This machine uses an oscillating current set up between two condenser plates. This current in turn produces an electrostatic field. The patient is placed in this electrostatic field, and currents are set up which raise the temperature of the body.

Due to the characteristics of the electrostatic field it was soon discovered that where beads of perspiration formed there occurred a distortion and a concentration of the field, often resulting in blisters and burns. It was not practical from a medical viewpoint on account of the initial cost and the complicated construction which required a highly trained personnel for its operation.

Carpenter and Page[13] removed most of the dangers of arcing and burning which are caused by excessive sweating. A large hood, or celotex cabinet envelops the patient with the exception of the head. A hot air blower heats the air within. Bierman, et al,[4, 8] employed the radiotherm method for several years in preference to all other thermal methods of treatment. They have also developed a device which adds to efficiency of the apparatus, the function of which is to raise the temperature of a localized area of the body above that of the entire body. With the patient in place between the condenser plates of the radiotherm, an electrode is induced into the vagina; this, in turn, is connected through an ammeter to a small auxiliary metal plate suspended near one of the large condenser electrodes. With this technic it is possible to develop temperature reading between 110 and 116° F. as indicated by a mercury thermometer inserted in the vaginal electrode.

Advantages of the radiotherm are: First, it is better than conventional diathermy for treating stout people because it is less destructive to fatty subcutaneous tissues; second, it is possible to elevate the temperature to 110-116° F. in localized areas while producing systemic fever; third, it is a penetrative heating agent.

Disadvantages of the radiotherm are: First, the initial investment is costly; second, by some it is considered not a rugged apparatus capable of withstanding long continued use; third, high frequency currents must be discontinued when rectal temperature is taken; fourth, distortion and concentration of current occurs when beads of perspiration form on the skin. Superficial burns are often produced, due to concentration of current; fifth, a highly trained personnel is essential.

NEW TYPE OF RADIOTHERM

Since the first radiotherm was developed by Whitney in the General Electric Laboratories, many short wave machines have been constructed. These produce electrostatic field wave lengths varying from 2.5 to 40 meters. Most of the machines use oscillating vacuum tubes but a few use spark gaps.

Some manufacturers extol their own product, a machine having a particular wave length, and since many physicians specifically recommend certain wave lengths for accomplishing certain results, unsubstantiated and extravagant claims have been made for the endemic bacterial action of each wave length. When a physician decides to elevate systemic temperature to a degree sufficiently great to kill gonococcus, he turns on the gonococcus wave length while the Treponema pallidum is killed by its own determinate wave length. As a matter of fact many of the short wave machines characterized by an electrostatic or dielectric field are inefficient in their heating capacity as they merely heat the surface tissues.

Improvement has been made upon the newer types of radiotherm. This has been accomplished by arranging the electrodes in the same plane above or below the patient. The advantage is that the initial investment compares well with other types of high frequency apparatus for producing artificial fever. The disadvantages are: First, arcing and burning of the skin are evident as the result of concentration of the short radio waves in the drops of sweat; second, occasional fluctuating in the line voltage makes it inadvisable to leave the patient unattended; and third, the use of any short wave apparatus except the one employing electromagnetic induction does not approach the efficiency of the conventional apparatus for heating the deeper tissues.

THE ELECTRIC BLANKET

Electric blankets of the past were of such construction that dangers were imminent. Their chief disadvantages were the danger of fire and shock to the patient, a short circuit being easily formed by the patient's sweating.

The blanket temperature frequently rises above 150° F. This burns out some of the resistance material which, in turn, ignites the blanket.

In the newer type of blanket these hazards have been removed. Safety from shock is assured by the use of less than five volts of electricity in the heating elements. This is slightly less voltage than required by an ordinary flash light. A blanket thermometer incorporated into the blanket registers the temperature of the heating element and eliminates the hazard of fire if the blanket temperature is not permitted to rise above 150° F.

With the use of the electric blanket a more gradual rise of temperature is apparent than with diathermy. With the former, at least five hours are necessary to reach a temperature height of 105°F., while with the latter, the same results may be attained in from sixty to ninety minutes. Even the simple mechanism of the electric blanket necessitates constant supervision of the patient throughout its operation. Its most desirable characteristic is its limited use to conditions requiring less elevated temperatures. Its desirable aspects are its low cost and adaptability to use in the home.

PLAIN BLANKETS

Recently Epstein and Cohen[23] devised a simple method of producing hyperpyrexia by wrapping the patient carefully in blankets and rubber sheeting. There is an even and gradual rise in the oral temperature; usually a temperature of 102° F. is reached in four hours, and 104° F. in from four to five hours. The temperature may be maintained at 104 or 105° F. for the period desired. The pulse rarely exceeds 140 per minute. This method employs the principle of preventing heat radiation from the body surface.

The advantages enumerated by Epstein and Cohen are: First, "the necessity of expensive electrical equipment is eliminated; second, there is no danger from electrical burns; third, it is less exhausting to the patient than diathermy or the heat cabinets; fourth, the rise in temperature is gradual and there is little disturbance of the pulse and respiratory rates."

In considering this method of inducing therapeutic fever, it should be remembered that at high temperature the mouth temperature reading is usually inaccurate. Any judgment formed which is misleading to the technician or attending physician is extremely dangerous for the patient.

A patient constrained continuously for from twelve to fourteen hours, discomforted and discommoded by the heavy weight of many blankets has a source of annoyance many times more troublesome than the induced fever. It is a drastic procedure, unnecessary in view of the modern equipment competent of producing efficient results in a more humane way.

RADIANT HEAT CABINETS

It is considered by most physicians who have used the radiant heat cabinet that its most objectionable feature is an important one. The pulse rate of 170 to 190 attained by the use of radiant heat seems excessive when compared with the lower pulse rate of 110 to 120 resulting from the application of penetrating heat. Then too, the temperature of the cabinet must be high to maintain the patient's fever elevation. It has been proved that external heat reverses the natural temperature gradients of the body at the time of the rise in temperature. The heart rate,[2, 51] is directly dependent upon the temperature of the skin when radiant heat is employed. The capillary pulse volume is relatively increased and the amount of perspiration correspondingly decreased.

Bishop, Lehman and Warren[10] make a more favorable report. After comparing three methods of producing artificial fever, conventional diathermy, radiothermy and the radiant energy cabinet, they conclude the last more comfortable, convenient and economical to operate. They found that with the apparatus, the temperature can be elevated to the desired degree. They have elevated their patients' temperature to 103.1 and 106.7° F. for thirty-four and twenty-seven hours respectively. By means of an amplifying system consisting of a microphone and loud speaker, they are able to listen to the heart throughout treatment.

One advantage of the heat cabinet is that there is no tendency toward an increased elevation of the patient's temperature when radiation is turned off. This is in marked contrast with diathermy where a slight increase is evidenced.

My use of radiant heat cabinets was not successful. Seven patients showed evidence of circulatory collapse and heat stroke. Cessation of sweating was observed occasionally. This, in my estimation, approaches heat stroke. Patients require a great deal more attention in the radiant heat cabinet than with the inductotherm method which we employ. Four patients showed circulatory collapse when treated with the radiant heat cabinet, but later were treated by means of the inductotherm, experiencing no ill effects. I was in communication with Dr. Stafford Warren regarding this matter. He suggested that excessive heat could have been avoided had the lamps been dimmed with a rheostat, the use of eight 60 watt lamps being more than sufficient to sustain artificial fever.

RADIANT HEAT AND HOT AIR CABINETS

Walinski[90] (1928) and Kahler and Knollmayer[34] (1929) used electric light cabinets in order to produce artificial fever. Roth, et al, many years before, used similar cabinets which induced bouts of fever. Their purpose was to increase metabolism and not to produce therapeutic fever.

At present, many cabinets employing radiant heat and hot water are on the market. Some of these machines have added atomized or water vapor to the heated air, thus varying degrees of saturation may be reached. "The nearer the point of complete saturation is approached, the less heat will be necessary to produce a fever, because complete saturation prevents any cooling whatsoever of the skin surface by the perspiration which cannot evaporate."

There is a serious element of danger in the use of hot water sprays and atomized hot water for the reaction is identical with that of the hot bath.

HUMIDIFIED HOT AIR CABINETS

This type of apparatus uses an atmosphere of hot, humidified air around the patient to raise the body temperature. There is a conduction of heat through the skin into the body, and in this supposedly lies one of its advantages. In contact with the skin, the hot air (usually about 150° F.) frequently burns the patient, and great care and experience are required to avoid serious burns. The air passes over grid type resistance units which heat it. It then passes over an electrical humidifier which adds moisture. Blowers then circulate the hot air into the chambers which hold the patient. It passes over the body of the patient and is drawn through vents or gratings back over the heaters and humidifiers. Every patient should have his feet wrapped in canton flannel boots to avoid serious burns on the skin of the toes. In markedly curved and protruding parts such as the nose, ears, fingers and toes, there is a deficient circulation accompanied by lowered skin surface temperature. In these areas burns are more easily produced. In such high temperature, the respiration rate goes to high values, and frequently definite alkalosis is produced of such severity that it is accompanied by tetany. Pulse rates go as high as 180 to 200. Various other physiologic effects are noticed; tachycardia, hyperventilation, and very low values of diastolic pressure giving rise to water-hammer pulse, capillary pulse and pistol shot signs over the femoral arteries.[81]

All of the machines in this class are fundamentally of the same mechanical construction with different controls and devices such as temperature charts and long distance thermometers. A general description will include most of these units. All of them consist of some heat-insulated cabinet in which the patient lies in the dorsal position. The patient's head is the only part that protrudes from the cabinet. All cabinets have a circulating fan that draws the air over the heater and humidifier, and into the cabinet holding the patient. The relative humidity is maintained at around 50 per cent during the treatment by means of the humidistat.

Rectal temperatures are taken at intervals with the patient in the atmosphere of hot air. It seems only natural to assume that the temperature thus obtained is higher in value than the actual body temperature due to the fact that the surrounding air is much hotter than the body of the patient. Since heat flows only from hot to cold it is natural that some of the heat in the hot air outside of the rectum gets to the bulb of the thermometer by convection and conduction.

In summation, it seems that the hot air cabinet is likely to burn the skin of the patient in areas of deficient circulation, such as scars and edematous areas. It may produce various undesirable physiologic effects due to the very high temperature of the environmental air and subject to a reasonable doubt the accurate measurement of the rectal temperature during treatment.

The criticism offered by Stecher[81] is that his patients, irrespective of the use of sedatives, became apprehensive, restless, and uncomfortable, and in many cases, a continuation of treatment depends to a considerable extent upon the ability of the nurse to entertain, distract, persuade and cajole. Slaughter and Trautman[79] seem to answer this criticism satisfactorily. They state that since the relative humidity in the cabinet has been changed from 35 to 40 per cent range (as advocated by Stecher) to a 50 to 55 per cent range, and, since the dry bulb temperature dropped from 150 to 155° F. (as advocated by Stecher) level to 140 to 145° F., there has been a marked decrease in burns and restlessness.

I personally observed some of these patients under treatment by Slaughter and Trautman and noted very little restlessness at temperatures as high as 107° F. A further criticism on this subject is answered by Simpson[78]; during a period of four years he has subjected patients to approximately 16,000 hours of sustained fever with only an occasional mild burn which occurred at the beginning of his series of treatments.

The humidification of hot air cabinets cannot alter the basic physiologic principles which affect the human system. However, time necessary for fever elevation has been so greatly decreased that a long period for systemic fever induction is no longer exhausting to the patient.

The objections to the hypertherm or humidified air-conditioned cabinets are the high environmental temperature and the low humidity which alter the physiologic temperature gradients.

Before this type of apparatus can be accepted it must make adequate provision for extremely low cabinet temperatures and relative humidity for inducing the patient's temperature, controlling and sustaining it at the required elevation. Then and only then, will the hypertherm be placed on a sound physiologic basis and its use be unequivocally recommended by physicians who realize the valuable therapeutic properties of hyperpyrexia.

ELECTROMAGNETIC FIELD
(INDUCTOTHERM)

The principle of producing heat by electromagnetic induction within the patient's body by means of an alternating electromagnetic field has been effectively utilized in producing artificial fever. The patient is placed in this field and eddy currents are set up in his tissues, thus causing a gentle rise in temperature. There is no contact with electrodes, the alternating field being induced into the patient's body by means of a coil encircling the body or one of the "pancake" type which may be placed over the chest and abdomen. Higher environmental temperature has no part in producing artificial fever by this method. Eddy currents are set up chiefly in the vascular and conductive tissues by means of an alternating current of approximately twelve to fifteen million cycles per second. These, in turn, are dissipated as heat. The generation of heat produces a rise in the patient's temperature and hyperpyrexia has been induced without many of the undesirable physiologic effects which sometimes are evident. It is interesting and important to note that the induction of eddy currents in the vascular tissues is more pronounced than in the less conductive adipose tissues, simulating in so far as the location of the generation of heat is concerned the natural production of heat.

The environmental atmosphere of the patient is not excessively high, and therefore danger from burns from this source is eliminated. As the electromagnetic field is not distorted by moisture spots appearing on the patient, the danger from burns caused by concentration of heat within a small area is also non-existent. This internal or penetrative method of fever induction does not disturb the basic physiologic relationship and therefore, in my opinion, comes nearer to approaching the ideal in both comfort and safety than any other method employed.

AIR-CONDITIONED CABINETS COMBINED WITH ELECTROMAGNETIC INDUCTION

Throughout, the outward appearance of this cabinet is similar to many humidified hot air cabinets, but the principles of operation differ. The cabinet itself is not the fever producing agent. The ends of the coil are plugged into the receptacle of the inductotherm. The inductotherm is a vacuum tube oscillator generating an alternating current having a frequency of approximately 12,000,000 to 15,000,000 cycles per second. The current is conducted through this flexible heavy insulated cable which is placed over the tissues where heat is desired. Heat is inducted into the patient's body by means of this coil.

The cabinet may be said to serve as an insulating blanket, preventing heat dissipation. Free circulation of slightly heated and humidified air within the cabinet as well as its spacious construction provide for the environmental comfort and safety of the patient.

The cabinet contains two compartments. The patient's compartment is commodious enough to allow free movement. The coil is suspended above or below the patient and is hidden from view by the sponge mattress, two and a half inches thick, upon which the patient rests.

Adjoining the patient's compartment are air ducts which supply the warmed and humidified air. This conditioning takes place in what is known as the air-conditioning compartment where the required temperature, usually that of the skin or a little higher, is automatically set on the thermostat. This compartment also contains the humidifier, the heater, and the blower. The humidifier consists of a series of pans filled with water. Air forced over these picks up moisture, passes over the heating element, and finally is forced through the air ducts and into the patient's compartment above.

The blower and heater units make electrical contact through sockets on the thermostat. When the temperature in the patient's compartment rises to the desired environmental temperature, the heater unit automatically turns off, but becomes energized again should the temperature decrease. Thus a fairly constant temperature is maintained in the patient's compartment.

The humidity is maintained at about 90 per cent. This degree of humidity and the temperature of the cabinet serves efficiently to retard dissipation of heat from the patient through radiation and evaporation of perspiration. The continuous circulation of air within the cabinet prevents a layer of saturated air from accumulating about the patient. As a result some evaporation of perspiration is permitted, thus adding appreciatively to the patient's comfort.

The inductotherm method is highly advantageous for several reasons. It employs the principle of penetrative heat. No reversal of nature's physiologic law is encountered. Its maximum heating effect occurs in an electrolytic solution similar to that of physiologic salt solution. Its simplicity of principle, ease of operation and comfort to the patient makes it the most desired "high frequency" method now in use for the production of artificial fever. Its initial cost should not be considered a disadvantage when consideration is taken of the many merits of the inductotherm.

REACTIONS IN FEVER THERAPY

Several types of reactions may occur while using electrical methods to produce high sustained fever. Records of our results in approximately twelve thousand hours of sustained fever of 105° F. and above compare favorably with other methods. The following reactions were observed and recorded:

Many patients become restless around noon, but the employment of a sedative such as sodium amytal, spasmalgin or codeine soon remedied this condition.

Fever blisters occurred in two patients.

One patient complained of dimness of vision during the height of his temperature. Vomiting occasionally occurred at the beginning of treatment when there was a sudden elevation of temperature after taking breakfast or when fluids were freely forced before the desired temperature elevation was attained.

Three patients had a tachycardia, and two had an accompanying cyanosis. Both the cyanosis and tachycardia disappeared soon after removal from the fever bag. Later, treatment was resumed with no subsequent recurrence.

Three patients had superficial burns before our technic was perfected. Separating the mattress, thus making a trough for the coil, prevented its close contact with obese patients and remedied this condition. Later, in one case the "pancake" coil was placed in contact with the zipper opening of the fever bag. This metal zipper became hot from absorption of the current and burned the patient. During the past four years no burns have occurred. No burns, whatever, have occurred during the use of the cabinet.

One patient had a marked loss of weight, fifteen, seventeen, and fifteen pounds being lost after each of three treatments. Restoration to normal was retained before each successive treatment.

Jaundice of short duration was noted in one patient. This, however, did not interfere with treatments.

There was one fatality. A temperature of 105° F. was reached in ninety minutes, and current was then disconnected. Two hours later, temperature had reached 106° F., the pulse had become imperceptible and the patient became cyanotic. After the administration of adrenalin by the house physician, the temperature promptly rose to 107° F. associated with symptoms of heat stroke, and then slowly descended to 103.8° F. when the patient expired.

In the fatality, three considerations must be taken: First, is the patient a poor risk for fever therapy? Second, is the department personnel properly trained? Third, was the method of inducing fever the one most suited to the patient? The blame is not placed on the method used.

SUMMARY AND CONCLUSION

I have endeavored to make a fair evaluation of the different methods of producing hyperpyrexia and the technical procedure involved in the use of different modus operandi. It is hoped that this criticism has been constructive. I believe that the advantages of physical methods over pathologic ones are now apparent to all. I have no desire to promote any type of fever method or machine. The objective is to employ the best method which will produce an elevation of temperature, then control and maintain it in the way most desirable for the treatment of disease. With some, high sustained temperatures will be required; with others a mild degree of systemic elevation will be sufficient. It is the "controllable" element in fever production which has made the process a safe and sane one from the viewpoint of the patient and a therapeutic agency of inestimable value to his physician.

The fullest possibilities latent in hyperpyrexia have not yet been attained. No other field of physical therapy holds greater promise.

I wish to acknowledge with grateful appreciation the valuable work of Mrs. Marion Stewart and her assistant, Miss Pearl Simon. Without them, I should not have been able to demonstrate the efficiency of hyperpyrexia produced by means of electromagnetic induction. As Medical Director of the Physical Therapy Department at Charity Hospital, I conducted and supervised treatment of 129 patients with 5,200 hours of sustained fever of 105° F. The fatality and most of the unfavorable reactions occurred in the first group of patients treated. These numbered six treated with 355 hours of induced fever. The other group of 123 patients reacted more favorably. We accredit this to our development of the proper technic and the skill and watchful care given each patient by our trained personnel.

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DISCUSSION

Dr. Nathan Polmer (New Orleans): Dr. Giles has made an intensive study and given an interesting presentation of the historic development of fever therapy. Historians have traced the concept of fever therapy to the dawn of written history. The essayist has traced the therapeutic use of hot baths to the Father of Medicine. Bierman attributes the following aphorism to Hippocrates: "Give me power to produce fever and I will cure all disease." And some four hundred fifty years later, one Ruphos, of Ephesus, said "If physicians were able to produce fever, no other method of treatment would be necessary." Of course modern physicians are not quite as optimistic about the use of physical therapeutic procedures alone but employ them along with all other methods of merit.

It might even be possible to trace the use of thermotherapy even down to Adam and Eve. It happened one evening when Adam came home late from the office and found his supper cold. The poet expressed what took place in a little couplet:

> "My supper is cold, he cried with vim,
> And then she made it hot for him."

From such empiric beginnings, the modern application of hyperthermia required centuries of advance in our science and art. The success that followed von Jauregg's malaria inoculations in cases of paresis, opened up new avenues for research in the production of fever by physical means. That the physical methods of hyperpyrexia, in which no foreign protein or chemical substance is injected into the body, are superior to the pathologic methods, need hardly be a subject of discussion at this time.

There are a number of physical agents that can be used for fever production. In fact the storerooms and basements of many large clinics offer evidence of the changing technics in this procedure. While hot air, hot baths, hot vapors, hot blankets, hot packs, hot boxes, high frequency currents, short-wave diathermy and electromagnetic induction all are used for therapeutic purposes, this indicates that there is as yet no one best method of hyperpyrexia. Apparatus and technics to be used in the near future may prove more simple and more effective than those employed today. As electrically induced artificial fever is but ten years old, any physician whose experience in fever therapy has extended over a period of years, has contributed his bit to the development and advancement of this therapeutic aid. Therefore it may not be amiss here to mention a few of the Southern pioneers in fever therapy. At the 1929 meeting of the American Electrotherapeutic Association there was first presented an informal report on the work of Drs. J. Cash King and Edwin W. Cooke, of Bolivar, Tennessee, in treating paresis by fever induced by diathermy. In 1930 Dr. Curran Pope of Louisville reported, "A Case of Tabes Treated by Electrothermic and Other Physical Measures." Phillips, of Miami, has done pioneer clinical work in his section of the country. Here in New Orleans, Drs. Slaughter, Trautman and their associates have treated perhaps the largest series of gonorrheal arthritics in the country. Dr. Howles has studied fever therapy in Wassermann fast syphilis. Dr. Wexberg has been interested in fever therapy in neurologic conditions. Dr. Giles has called attention to the dangers of excessive external heat and has reported on "Present Status and Technic of Artificial Fever." It has been my privilege to treat and report in the literature in 1932 the first use of diathermy pyrexia in juvenile paresis.

As to the modern application of artificial fever, it will suffice here to state that during the past six years I have personally treated with physically induced hyperpyrexia the following conditions: Juvenile paresis, syphilis of the central nervous system (tabes and paresis), acute gonorrheal arthritis, subacute and chronic pelvic inflammatory disease, chronic infectious arthritis, intractable bronchial asthma, undulant fever and multiple sclerosis.

In concluding these remarks, I wish to congratulate Dr. Giles on his interesting presentation and to re-emphasize that of greater importance than the apparatus used is the skill, experience and clinical vigilance of the physician, his nurse-technician and assistants in the application of the fever treatment.

SURGERY OF AMEBIASIS

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The surgical significance of amebiasis lies in the fact that the Endameba histolytica not only produces extra-intestinal lesions which necessitate surgical intervention, but also causes manifestations of the bowel which are easily confused with conditions requiring surgical therapy. In general, this is not sufficiently realized and the reason is due probably to two fallacious impressions: (1) that amebiasis is principally a tropical or subtropical disease, and (2) that hepatic abscess, which is generally considered the only surgical complication, is of rare occurrence. The ubiquitous occurrence of amebiasis has been repeatedly demonstrated.[1, 2] Over 11 per cent of a series of 49,336 persons examined in all parts of the United States were found to be affected with Endameba histolytica according to Craig.[1] Of even greater significance is the fact that the incidence of amebiasis is apparently increasing. In a collected series of 19,882 individuals examined before 1930, the incidence of positive infection was found to be approximately 10.3 per cent. In a similarly collected group of 28,634 individuals examined since 1930, this incidence was found to be 12.8 per cent.[2] Craig[1] has estimated that between 6,000,000 and 12,000,000 people in this country are infected with this parasite. As hepatic complications occur in an incidence of approximately 4 to 5 per cent of individuals with amebic dysentery, it can be readily seen that the potential number of hepatic complications is approximately 300,000 to 600,000. Moreover, hepatic abscess represents only about half of the complications of amebiasis which are of surgical significance. Thus, it becomes obvious that even a conservative estimate of the incidence of surgical amebiasis would be from 500,000 to 1,000,000 people in this country. The necessity of the surgeon's serious consideration of amebiasis is apparent from these astounding figures.

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CLASSIFICATION OF LESIONS

In a previous publication[3] we classified amebic lesions of surgical significance as follows:

- I. Intestinal lesions:
    - A. Appendicitis.
    - B. Perforation with resulting peritonitis.
    - C. Massive hemorrhage.
    - D. "Ameboma" (amebic granuloma).
    - E. Cicatricial stenoses.
    - F. Pseudopolyposis.
- II. Extra-intestinal lesions:
    - A. Hepatic abscess.
    - B. Pleuropulmonary affections.
    - C. Cerebral abscess.
    - D. Cutaneous ulceration and abscess.
    - E. Splenic abscess.
    - F. Genito-urinary affections.

INTESTINAL LESIONS

Appendicitis: The surgical significance of amebic appendicitis has been emphasized in a previous communication[4] and may be considered one of the most frequent surgical complications of amebiasis. Amebic appendicitis may occur as an acute, suppurative, or chronic inflammatory process. The incidences of suppurative appendicitis in fatal cases of amebiasis were found by Clark,[5] Strong,[6] and Craig[7] to be 7 per cent, 40 per cent, and 16 per cent, respectively. Whereas acute appendicitis occurring during the course of an amebic infection of the bowel is likely to be suspected preoperatively, subacute and chronic amebic appendicitis are likely to be overlooked unless the physician considers the possibility of their existence. Mild symptoms produced by amebic infections of the appendix are much more common than is generally realized. In fact, the authors have found this condition so frequently that in the Tulane Service, careful stool examination for Endameba histolytic is routine in all patients in whom the diagnosis of chronic appendicitis is made. In approximately 10 per cent of these cases, a positive infection is found and the institution of anti-amebic therapy is usually sufficient to relieve all clinical manifestations. Wilkinson[8] and Huard[9] have both stressed the importance of differentiating chronic amebiasis and chronic appendicitis. Unfortunately, too much emphasis has been placed upon the diagnostic significance of a history of antecedent dysentery. However, it should be thoroughly realized that dysentery is only one manifestation of amebic invasion of the bowel and one which is not infrequently absent. As regards this fact, the authors concur with Craig[1] who states, "It is most unfortunate that the term 'amebic dysentery' should have become in the minds of most medical men as a synonym of amebiasis or amebic infection, for while dysenteric manifestations are quite characteristic of the serious infection of E. histolytica, the vast majority of such infections are not accompanied by dysenteric symptoms, but some other factor and not recognized as a result of infection by the parasite."

Because in acute appendicitis the infection is seldom if ever limited to the appendix but also involves the cecum, surgical intervention is considered undesirable and even dangerous. The prohibitive mortality rate following appendectomy during the recent Chicago epidemic demonstrates this fact with striking clarity. Absolute conservatism as employed and previously described [10, 11] in the conservative treatment of pyogenic appendiceal peritonitis is considered essential in these cases. However, appendectomy is occasionally necessary.

Perforation of Bowel: This is one of the most serious complications of intestinal amebiasis. This occurred in 19 per cent of the fatal cases and 1.5 per cent of the clinical cases analyzed by Strong[12]. Peritonitis almost invariably follows, and the prognosis is obviously grave. However, the localization of such peritoneal infections fortunately occurs more frequently, particularly in the regions of the cecum and sigmoid. The treatment consists of preoperative administration of amebacide and of incision and drainage of the abscess.

Fortunately, *massive intestinal hemorrhage* is one of the rare complications of amebiasis. Strong[13] and Craig[1] each reported two cases which ended fatally. The condition usually occurs in the very rapidly progressing type of infection, and the prognosis is extremely grave. The treatment consists of massive and repeated transfusions to replace the blood loss and to increase the coagulability, the use of amebacides, and ultraconservatism.

Amebic granuloma or *"ameboma,"* which in our opinion is a more descriptive and expedient term, consists of a tumefaction of the bowel wall as the result of repeated invasion by the amebae causing progressive destruction with replacement by fibrous tissue. A number of these cases have been reported.[14,21] The lesion consists of a firm nodular inflammatory mass with small abscesses in the more central areas. The mucous membrane is usually destroyed and the resulting ulcer is covered with dirty grayish slough. In the necrotic tissue at the base of the ulcer amebae can frequently be demonstrated. Round-cell infiltration with lymphoid hyperplasia and large numbers of eosinophiles may be observed microscopically. Fibroblastic proliferation usually occurs in the peripheral portions of the mass. These tumors are usually observed in the cecum or sigmoid and may be confused with tuberculoma, actinomycotic and malignant lesions. "Ameboma" should be considered and careful stool and serologic examinations made in all chronic inflammatory lesions involving the colon and the cecum particularly. Amebacides should be employed in all cases in which amebae are found because operative intervention may be unnecessary in these cases. However, in those cases in which extensive cicatricial stenosis has occurred, resections or short-circuiting procedures may be necessary. Even in these cases, the preoperative administration of amebacides should be done because of the possible postoperative extension of the amebic infection.

Occasionally, a localized or generalized narrowing of the colon may occur and has been observed by Craig[1] and others[21,24]. The complication is usually found in patients who have had recurrent infections over long periods of time resulting in destruction of the bowel and consequent replacement by fibrous tissue. Although they are more commonly limited to the cecum and sigmoid, rarely they may be found in the rectum. The treatment consists of preoperative administration of amebacides followed by excision or short-circuiting procedures.

Pseudopolyposis of the bowel is one of the rare complications of amebiasis and is the result of prolonged infection with consequent hypertrophy of the colonic mucosa. Cases of this nature have been observed by Hines[25] and Anderson et al[26]. The diagnosis is difficult to establish and depends upon the finding of amebae in the stool or in sections of tissue removed and upon a positive serologic examination. The treatment consists of preoperative administration of amebacides and excision.

EXTRA-INTESTINAL AMEBIC LESIONS

Hepatic abscess is undoubtedly the most common and the most important extra-intestinal amebic lesion. The incidence varies considerably depending upon whether the analyses have been made upon fatal cases of amebiasis or upon clinical cases. In a previous communication we[2] found that of 4,994 fatal cases of amebiasis collected from the literature, 1,818 had hepatic abscess, an incidence of 36.4 per cent. However, in a group of 9,039 clinical cases of amebiasis including ours there were 430 cases of amebic abscess of the liver, an incidence of 4.7 per cent. Of even greater significance is the fact that the incidence is apparently increasing rather than diminishing. In an analysis of the cases admitted to the Charity Hospital during the six-year period 1928-1933, inclusive, the incidence of amebic abscess in amebic dysentery was 15.2 per cent[27]. We made a similar analysis during the period 1934-1937, inclusive, and this incidence was found to be 20.4 per cent[2]. The reason for this recent increase in incidence is that either more cases are being diagnosed or there is an actual increase in amebiasis and liver complications.

Amebic abscess of the liver occurs predominantly in the male sex. In our series of 139 cases, we found that 119 (85.4 per cent) occurred in the male. This is undoubtedly due to the fact that amebic infection of the bowel occurs more frequently in this sex. Other factors which have been suggested as explanations for the greater incidence in the male are that alcoholism, which predisposes to hepatitis, is more characteristic of the male sex, and that trauma is more likely to occur in the male sex. The condition occurs most frequently between the ages of twenty and fifty years. In our series of 139 cases, 17.9 per cent occurred in the third decade, 29.4 per cent in the fourth, and 25.8 per cent in the fifth. The racial factor does not appear to be significant, as in the 118 cases admitted to the Charity Hospital, 20.8 per cent were white and 49.1 per cent were colored.

Amebic hepatic abscess is due to the invasion of the liver parenchyma by amebae which are transported from the colon through the portal system. The two factors important in the development of amebic hepatic abscesses are: (1) intrahepatic portal thrombosis and infarction caused by the amebae, and (2) the cytolytic activity of the amebae. Thus, in the early stages an amebic hepatitis usually occurs with a characteristic liquefaction necrosis of the parenchyma. If the condition progresses, a true abscess results. On the other hand, if prompt therapy is instituted during this stage, true abscess formation will not occur and complete restitution will be obtained.

Whereas single abscesses are characteristically present in the clinical cases, multiple abscesses are frequently found in the fatal cases of amebiasis. This is obviously due to the fact that multiple abscesses are more likely to occur in the severe cases which may terminate fatally and to the fact that postmortem examination permits more thorough studies of the liver. In 1,403 collected cases analyzed by us[2], 68.6 per cent were single and 31.3 per cent were multiple. In our series of 99 cases, 87.8 per cent were single and 12.1 per cent were multiple. The right lobe was involved in 83.8 per cent, the left lobe was involved in only 16.1 per cent. In our series these percentages were 95.9 per cent and 4 per cent, respectively. The characteristic chocolate-sauce material which is pathognomonic of an amebic abscess is due to the presence of necrotic liver tissue. The amebae are seldom found in the "pus" as is demonstrated by the fact that in 289 collected cases the amebae were found in only 16.9 per cent. Moreover, bacteriologic examination of this material usually reveals that it is sterile. In an analysis of 448 collected cases and 77 personal cases, the abscesses were found to be sterile in 86.3 per cent and 84.5 per cent, respectively. However, following open drainage the abscess rapidly becomes infected, a fact which is extremely significant and which will be discussed under therapy.

SIGNS OF AMEBIC ABSCESS

Amebic hepatic abscess produces systemic and local clinical manifestations. In our series of cases, the most frequent symptoms and signs were pain in the right upper quadrant, tenderness over the liver, fever, enlargement of the liver, and weakness and loss of weight. Fever is characteristically not marked, usually ranging between 99° and 101° F. However, in most cases in which secondary infection has occurred, the temperature is much higher. It is important to realize that in uncomplicated amebic hepatic abscess the clinical manifestations are usually not marked and the patient does not appear to be acutely ill, which is in direct contrast to the clinical appearance of a patient with pyogenic hepatic abscess[28]. Too much importance should not be placed on dysentery as a symptom in amebic hepatic abscess as is demonstrated by the fact that in our series of cases only 21.5 per cent had this manifestation at the time of admission to the hospital.

LABORATORY STUDIES IN AMEBIC ABSCESS

The laboratory studies in amebic hepatic abscess are significant. In amebic hepatic abscess in contrast to pyogenic hepatic abscess, there is a moderate leukocytosis without a disproportionate increase in the polymorphonuclear leukocyte count[28,30]. In our series, the average leukocyte count was found to be 14,000 and the average neutrophilic count was found to be 78 per cent. A marked elevation of the total leukocyte count with a proportionate increase in the polymorphonuclear percentage almost invariably indicates secondary infection of the abscess. A slight secondary anemia is usually found as is demonstrated in our series in which the average erythrocytic count was 3,700,000 and the average hemoglobin was 65 per cent. The presence of *E. histolytica* in the stool is of diagnostic significance, although its absence does not exclude the diagnosis of amebic hepatic abscess. This is clearly demonstrated by the fact that in the collected series of 209 cases of amebic hepatic absecess, the stools were found to be positive in only 18.1 per cent. In our series, positive infection was found in 30.5 per cent. The complement fixation test of Craig[31,32] is also of diagnostic value.

X-RAY IN AMEBIC ABSCESS

Roentgenography is one of the most valuable diagnostic procedures in liver abscess as is clearly demonstrated by the fact that the roentgenographic findings were positive in 83.3 per cent of the collected series and in 88.5 per cent of our series. The characteristic roentgenographic findings have been previously described by Granger[33] and the authors[34]. In uncomplicated hepatic abscess, there is characteristic localized bulging of the right leaf of the diaphragm into the lower lung field. However, in those cases in which amebic hepatic abscess has ruptured into the subphrenic space there is characteristically an obliteration of the cardiophrenic angle in the anterior-posterior roentgenogram and of the anterior costophrenic angle in the lateral roentgenogram. In contrast to this, roentgenograms in pyogenic subphrenic infections show elevation in the lateral portion of the diaphragm and obliteration of the costophrenic angle in the anterior-posterior roentgenograms and obliteration of the posterior costophrenic angle in lateral roentgenograms.

PROGNOSIS OF AMEBIC ABSCESS

The prognosis in amebic abscess of the liver depends upon: (1) multiplicity of the lesions in the liver which in turn are dependent upon the severity of the amebic infection; (2) general resistance of the patient; (3) secondary infection of the abscess cavity; and (4) the type of treatment employed. Whereas in 87 cases analyzed by us in which the abscess was single, the mortality rate was 11.4 per cent, in 12 cases in which the abscesses were multiple, the mortality rate was 100 per cent. The presence of secondary infection in an amebic hepatic abscess is a serious complication. Secondary infection almost invariably follows open drainage, and its gravity is clearly demonstrated by the fact that of 4,760 collected cases in which open operation was done, the mortality rate was 44.2 per cent; in 457 similar cases in which aspiration and amebacides were used the mortality rate was only 6.7 per cent[2]. In our series, these respective figures were 21.6 per cent and 3.6 per cent. The presence of complications in amebic hepatic abscess also increases the gravity of the condition. In our series, there were 33 cases with complications with a mortality rate of 39.4 per cent and 106 cases with no complications with a mortality rate of 8.4 per cent. In those cases in which secondary infection has occurred open drainage of the abscess is necessary and the prognosis is influenced considerably by the type of drainage instituted. This is clearly demonstrated by the results obtained in our cases[2]. In 23 cases in which transpleural drainage was used, the mortality was 70.4 per cent; in 23 cases in which incision and drainage directly over the abscess was done, the mortality was 17.6 per cent; and in 11 cases in which an extraserous drainage was done without contamination of an uninvolved serous cavity, the mortality rate was only 9 per cent.

TREATMENT OF AMEBIC ABSCESS

The treatment of amebic hepatic abscess consists of: (1) the administration of emetine preoperatively and postoperatively, and (2) aspiration of the abscess content. The importance of the administration of emetine both before and after drainage of the abscess has been repeatedly emphasized[2,27,29,30,34,36]. In the Tulane Surgical

Service, emetine is routinely administered hypodermically in one grain doses daily for four days before aspiration except in those cases in which there is apparent danger of rupture of the abscess. In many cases of amebic hepatitis or in cases in which small abscesses are present, no further therapy will be necessary. After aspiration, the emetine administration should be continued until a total of 6 to 10 grains has been given. Leake[37] states that the amount of emetine administered over any given period of time should not exceed 10 mg. per kilogram of body weight and in the average adult weighing 150 pounds this would be approximately 10 grains. In uncomplicated amebic hepatic abscess, closed drainage or aspiration of the abscess should be employed. Open drainage should never be used except in those cases in which secondary infection is already present. The significance of this fact has been previously mentioned and is further demonstrated by the results obtained in the Charity Hospital and Touro Infirmary cases. Whereas the mortality rate in those cases treated by open operation was 21.6 per cent, in the cases treated by aspiration and emetine the mortality rate was only 3.6 per cent. The technic of aspiration is relatively simple. In the cases in which localization and bulging of the abscess are present, the aspirating needles should be introduced directly over the mass. It is preferable to perform this procedure in the operating room as strict asepsis is essential and immediate open drainage may be necessary in the cases in which secondary infection is found. In those cases in which no localizing signs are present it is important to introduce the needle in such a way that the pleural and peritoneal cavities are not traversed, and this is best accomplished by inserting the needle through the tenth intercostal space in the anterior axillary line and directing it upward, medially, and backward. In the posteriorly located abscesses, the needle may be introduced just below the twelfth rib and directed upward and anteriorly. If it becomes necessary to change the direction of the needle, it is important to remove it entirely before reintroducing it as extensive injury to the liver can thus be avoided. It is preferable to use local analgesia and a 14-gauge needle, although a larger caliber needle may be necessary if the abscess contents are extremely viscid. Immediate smear and culture of the material should always be done and, if a large number of pyogenic organisms are found in the smear, open drainage is usually necessary because in such cases the secondary infection is more important than the original sterile amebic abscess. Under such circumstances, open drainage should always be done in such a way that an uninvolved serous cavity does not become contaminated. The technic of extraserous drainage of such an abscess has been previously described by us.[38, 39]

OTHER EXTRA-INTESTINAL LESIONS

Pleuropulmonary amebiasis is the next most frequent and most important extra-intestinal amebic lesion. In a previous communication, we[40] analyzed 153 collected case and 15 cases of this type of amebiasis admitted to the Charity Hospital. With few exceptions, this condition is due to an extension of an amebic process from the liver into the thorax. In an analysis of 2,490 collected cases of amebic hepatic abscesses pleural complications occurred in 198 (7.9 per cent) and pulmonary complications in 209 (8.4 per cent), a combined incidence of 16.3 per cent. In our series, this incidence was 15.7 per cent. Because amebic hepatic abscess occurs more frequently in the male, pleuropulmonary amebiasis also occurs predominantly in this sex. Similarly, these complications are most likely to occur in the third and fourth decades of life. Whereas pleuropulmonary amebiasis is usually the result of extension from amebic hepatic abscesses, rarely amebic lesions occur in the lung due to the invasion of the systemic circulation.

We have divided pleuropulmonary amebic infection into five groups depending upon the type of involvement: (1) hematogenous pulmonary abscess without liver involvement; (2) hematogenous pulmonary abscess and independent liver involvement;

(3) pulmonary abscess extending from a liver abscess; (4) bronchohepatic fistula with little pulmonary involvement; and (5) empyema extending from a liver abscess. The respective incidences of these types of involvement in the collected series were 14.3 per cent, 10.4 per cent, 37.2 per cent, 19.6 per cent, and 17.6 per cent.

The clinical manifestations of pleuropulmonary amebiasis depend upon the extent and the mode of infection. In those cases in which a liver abscess has ruptured into the base of the right lung, the patient usually complains of rather severe pain in the lower portion of the right chest and a persistent, unproductive cough. However, if the bronchohepatic fistula develops, the patient expectorates large quantities of "chocolate-sauce pus." Dyspnea may be a common manifestation and occasionally there is pain extending to the right shoulder. The temperature ranges between 100° and 101° F. On physical examination, the liver is usually enlarged and dulness and rales are generally found at the base of the right chest. The leukocyte count commonly shows a slightly greater increase than is found in hepatic involvement. In those cases in which a bronchohepatic fistula has recently occurred, amebae can usually be demonstrated in the sputum.

The roentgenographic findings in these cases are quite characteristic. Before perforation of the liver abscess has occurred, localized bulging of the right leaf of the diaphragm may be seen. However, following the perforation there may be visualized a triangular shadow with the base towards the liver and its apex extending towards the hilum of the lung. This is present in both the lateral and the anterior-posterior roentgenograms.

The diagnosis should not be difficult if the condition is kept in mind. The characteristic clinical manifestations and the roentgenographic findings should indicate the correct diagnosis. A history of expectoration of chocolate-sauce pus is almost pathognomonic. The finding of amebae in the sputum establishes the diagnosis.

The prognosis in pleuropulmonary amebiasis depends upon the type of involvement and upon the type of therapy. The prognosis is best in those cases in which a bronchohepatic fistula is present and gravest in those cases in which the liver abscess ruptures into the pleural cavity. Whereas in the former type of involvement the mortality rate was 10 per cent in the collected cases, in the latter the mortality rate was 77.7 per cent. In a recent analysis[41] of 21 cases admitted to the Charity Hospital and to the Touro Infirmary, these respective figures were 0 per cent and 57.1 per cent. The significance of the type of therapy is demonstrated by the fact that in the collected series the incidence of recoveries without emetine was 43.9 per cent, whereas the incidence of recoveries with emetine was 91.8 per cent. In our series, these respective figures were 40 per cent and 100 per cent.

The treatment of pleuropulmonary amebiasis consists primarily of the systemic treatment of amebiasis, i. e., the administration of emetine. In those cases in which the amebic hepatic abscess has ruptured into the pleura producing an empyema, aspiration is indicated. However, in those cases in which a bronchohepatic fistula is present, conservatism is preferable.

Amebic abscess of the brain occurs very rarely. It is usually observed in patients who develop rather severe and progressive amebic infections. The incidence of this type of amebiasis apparently depends to a great extent upon geographic locations. Kartulis[42] reported the presence of brain abscess in 3 per cent of the cases of amebic dysentery observed in Egypt, and Izar[42] collected 56 cases of amebic abscess of the brain, 29 of which occurred in Egyptians. The condition is undoubtedly due to a blood-borne infection and not infrequently associated with some pulmonary involvement. The clinical manifestations are similar to other forms of cerebral abscess except that they progress much more rapidly and invariably end fatally. There are no reported recoveries in spite of the various methods of therapy employed.

Cutaneous amebiasis occurs relatively rarely and usually results from drainage of an amebic abscess. Occasionally it is due to a perianal extension of an amebic infection in the distal portion of the rectum. We[3] have collected 28 cases from the literature. A few cases have been reported in which the cutaneous involvement was primary. The clinical manifestations consist of progressive extension around the site of drainage, elevation and induration of the skin with peripheral pigmentation, necrosis, and undermining. From the progressive cutaneous ulceration there is usually a blood-tinged fetid discharge. The treatment consists of the administration of emetine and radical excision in those cases in which anti-amebic therapy alone does not suffice.

Splenic amebiasis occurs extremely rarely and is due to metastasis from the intestines or to direct extension from an abscess of the left lobe of the liver. Huard[9] states that only six cases have been reported. The lesion occurs so rarely that it is of little clinical significance. The diagnosis is usually made after death.

Genito-urinary amebiasis is also an extremely rare occurrence and is usually due to direct invasion of the kidneys from an amebic process of the liver. A few cases have been reported in which the lesion was apparently metastatic from the bowel such as extension from the colon to the bladder. Cases have been reported in which extension has occurred to the epididymis, testicle, fallopian tube, prostate, ovaries, vagina, cervix, and penis.

SUMMARY

1. Amebic lesions of surgical significance may be classified as: (1) intestinal, and (2) extra-intestinal.

2. Of the intestinal lesions, amebic appendicitis is the most important. Careful stool examination for *Endameba histolytica* should be made in all cases diagnosed as chronic appendicitis. The significance of this is clearly shown by the fact that approximately 10 per cent of these cases have been found to have positive infections, and the institution of anti-amebic therapy relieved the clinical manifestations.

3. Perforation with resulting peritonitis is one of the most serious complications of intestinal amebiasis.

4. Massive intestinal hemorrhage is one of the rare complications of amebiasis and usually occurs in the very rapidly progressing type of infection.

5. Amebic granuloma or "ameboma" is occasionally observed in intestinal amebiasis and develops as a result of repeated invasion by the parasite causing progressive destruction with replacement by fibrous tissue. Occurring usually in the cecum or sigmoid, they may be confused with tuberculoma, actinomycotic and malignant lesions.

6. Cicatricial stenoses and pseudopolyposis are rare complications of amebiasis.

7. Hepatic abscess is undoubtedly the most common and the most important extra-intestinal amebic lesion. A brief analysis of 139 cases is presented.

8. Pleuropulmonary amebiasis is the next most frequent and most important extra-intestinal amebic lesion. The incidence of pleuropulmonary amebiasis in amebic hepatic abscess is 15.8 per cent.

9. Amebic abscess of the brain occurs rarely and is usually observed in patients who develop rather severe and progressive amebic infections.

10. Cutaneous amebiasis usually results from drainage of an amebic abscess. The lesions are characterized by progressive ulceration associated with a blood-tinged fetid discharge.

11. Amebic infections of the spleen and genito-urinary system occur relatively rarely.

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DISSECTING ANEURYSMS*

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A dissecting aneurysm is the lesion produced by penetration of the circulating blood into the substance of the wall of a vessel with subsequent extension of the effused blood for a varying distance between its layers. Generally the aorta is the vessel involved, though dissecting aneurysms may form in any vessel. According to Shennan,[1] Manunoir (1802) clearly recognized the condition; Peacock, in 1843, established it on a firm foundation as a pathologic entity, and Swaine (1855-6) diagnosed the first case prior to death.

Having encountered a dissecting aneurysm on several occasions in the past few years, my interest was aroused and I am reporting a group of six cases occurring in the Shreveport Charity Hospital, from 1929 to 1939, and confirmed by autopsy performed by Dr. W. R. Mathews.

CASE REPORT No. 1

C. C., a white male, 66 years of age, was admitted to the Shreveport Charity Hospital, August 9, 1934, with a strangulated right inguinal hernia which developed the previous day. He was an obese white male 66 years of age. His heart was enlarged downward and to the left. There were no murmurs and the blood pressure was 182/98. The abdomen was protuberant, with a mass in the right inguinal region, interpreted as a strangulated inguinal hernia. There was slight pitting edema of the ankles.

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Hernioplasty was performed under spinal anesthesia as an emergency procedure. His postoperative condition was fair, but he expired at midnight on August 10.

Autopsy showed diffuse congestion of both lungs with diffuse pulmonary edema, and bronchopneumonia. The heart weighed 600 grams, with calcification at the base of the aortic valve and bluish plaques involving the commissures. The aorta showed numerous irregularities of the intima due to depressions and raised bluish plaques and large soft raised corrugated plaques containing soft greasy material interpreted as atheromatous abscesses. There was a beginning dissecting aneurysm 5 cm. above the aortic ring on the uppermost part of the aorta. The arch of the aorta was considerably dilated. The capsules of the kidneys stripped with difficulty, exposing very marked granular surfaces. The liver weighed 2100 grams. Death was attributed to terminal hypostatic pneumonia and congestive failure.

DISCUSSION

The hypostatic pneumonia and the failure must be classified as incidental findings. It apparently had no bearing upon the final outcome and we do not know when it occurred. Syphilis and arteriosclerosis were both present in the aorta.

CASE REPORT No. 2

P. T., a white male, 39 years of age, was admitted to the Shreveport Charity Hospital, January 7, 1932, complaining of pain in the abdomen. He stated that on January 6, 1932, while walking down the street he experienced a sudden sharp pain in the abdomen. His left leg gave way, he fell and has not been able to walk since. The pain in his abdomen has continued and he now has some pain in his left foot.

He was a well developed, and well nourished white male, acutely ill and suffering some pain. He was slightly cyanotic and his pulse was very weak. The lungs were apparently normal. The heart sounds were very faint and no murmurs were heard. The blood pressure could not be determined. He was unable to move the left leg, which was cold and clammy.

He was admitted at 11:00 p. m. on January 7, and expired at 9:00 p. m. January 8. He apparently rallied some during the morning, but was quite uncomfortable.

Autopsy revealed cardiac tamponade due to hemorrhage into the pericardium from a ruptured dissecting aneurysm. The heart weighed 380 grams and the left ventricular wall measured 2.8 cm. Two inches above the aortic ring there was a circular rupture of the intima and media, involving the entire circumference, except about 1½ cm. anteriorly. Dissection extended proximally and distally, with rupture into the pericardial sac and into the mediastinal tissue about the aorta. Pearly white translucent plaques of various sizes were seen in the lining of the aorta.

CASE REPORT No. 3

M. B., a colored female, 55 years of age, was admitted to the Shreveport Charity Hospital, December 28, 1930, complaining of dyspnea, and pain in the lower abdomen. Cardiac symptoms had existed for about one year and in July 1930, she was treated here for epistaxis. Present illness began one week ago, with pain in the lower abdomen, above pubes and to the right. The pain was described as if something was "pulling in her." The past history was irrelevant.

The patient weighed about 200 pounds and apparently was not in acute pain. The sclera was of a slight icteroid tint. The heart was enlarged downward and to the left with a systolic murmur at the apex and base. The rhythm was irregular, apparently due to premature beats and the blood pressure was 210/160. There were no abdominal masses or areas of tenderness. The urine showed a trace of albumin and the blood Wassermann was negative.

She was admitted about midnight on December 28, and rested fairly comfortably until about 3:00 a. m. on January 1, when she complained of epigastric pain and dizziness. At this time, her pulse was weak and irregular, the blood pressure was recorded as 120/90 and she was bathed in cold perspiration. Her condition improved and was fairly satisfactory, but she expired suddenly on January 5, about 6:00 p. m.

Autopsy revealed cardiac tamponade from hemorrhage into the pericardium. The pericardium contained 250 c.c. of blood-tinged fluid and a blood clot, measuring in its maximum thickness, 4 cm., was found tightly hugging the heart. The heart weighed 550 grams and the maximum thickness of the left ventricular wall at its base was 28 mm., there was marked dilatation of the ascending portion of the arch of the aorta with dissecting of the intima and part of the media from a point about 2 cm. above the aortic valve for three inches. This completely surrounded the organ in some places and contained considerable clotted blood. About 3 cm. above the aortic orifice, there was an external rupture measuring 1 cm. into the pericardial sac. There was undue adhesion of the aorta to adjacent structures. Elsewhere the lining of the aorta was extremely irregular on account of bluish translucent plaques, stellate and linear depressions. The coronary arteries presented rather marked arteriosclerotic changes. The capsules of the kidneys stripped with great difficulty, exposing coarse and finely granular surfaces.

DISCUSSION

In both of these cases there was the initial complaint of abdominal pain, but from the autopsy the dissecting aneurysm was confined largely to the ascending aorta. The abdominal pain was therefore entirely a referred pain. Autopsy revealed no explanation for the pain and loss of function in the left leg in Case 2, but the vessels of the leg were not explored. In both cases rupture was into the pericardium. Syphilis was present in the first case and syphilis and arteriosclerosis in Case 3.

CASE REPORT No. 4

C. W., a 56 year old colored male, farmer, was admitted to the Shreveport Charity Hospital, April 30, 1935, complaining of generalized abdominal pain. He had not been seriously ill until about 2:00 p. m., April 29, 1935, when he was suddenly seized with substernal pain which radiated to the back between the shoulder blades, the abdomen and thighs. He immediately felt weak, became dyspneic and had cold perspiration. On account of the weakness and agonizing pain, he went to bed and vomited shortly afterwards. He suffered intense, continuous pain throughout the night and came to the hospital the following morning. At this time a generalized, agonizing abdominal pain with radiation to the thighs seemed to trouble him most. There was never any localization of the abdominal pain. He was given a half grain of morphine and sent to the ward.

Physical examination revealed a well nourished but not obese patient in great pain and very dyspneic. He was more comfortable in the sitting posture. The pulse rate was recorded as 58, the blood pressure 220/120, respiration 32, and the temperature 98.6°. Respiration was described as labored and restrained. There were no rales. The heart was enlarged to the left and there was a systolic aortic murmur. The liver and spleen were not palpable. A reducible umbilical hernia was extremely tender along the upper right margin of its opening through the abdominal wall. There was no abdominal distention or rigidity.

An x-ray was interpreted as negative for perforation of the gastrointestinal tract and intestinal obstruction.

There were 8,800 leukocytes, 73 per cent neutrophils, and the blood smear was negative for malaria. The Kahn (blood) was negative.

A provisional diagnosis of acute abdomen, ruptured appendix, or ruptured peptic ulcer, was made and under spinal anesthesia an appendectomy through a right para-median incision was done at 4:00 p. m., on the day of admission.

The patient's postoperative reaction was good. On the first, second, and third, postoperative days the temperature ranged between 101 F. to 103 F. On the fourth postoperative day the temperature became normal and for the remainder of his course ranged between 98.6 to 100.4 F. On the seventh postoperative day, the patient complained of precordial pain which the intern thought was an anginal attack.

The nurses' record showed only three doses of morphine postoperatively and usually recorded a fair day or a fair night. Only one reference was made to a specific complaint and that was abdominal pain on the second postoperative day. At 6:00 p. m., patient was described as quiet, and at 6:40 p. m., he died suddenly, on the tenth day of his illness.

Autopsy showed the left pleural cavity filled with fluid and clotted blood, measuring 2500 c.c. The fat tissue in the anterior mediastinum was markedly thickened, due to hemorrhage. The pericardial sac contained about two ounces of clear fluid. In the arch of the aorta, at the level of origin of the left subclavian and common carotid arteries, was a dissecting aneurysm which extended downward in the anterior lateral aspect of the aorta, throughout the length of the aorta and the left common iliac. There was a long, slightly irregular, longitudinal slit in the intima extending into the media, commencing at the origin of the left subclavian artery and extending downward for 5 cm. There was a transverse extension from this for a distance of 1½ cm. The dissection occurred in the plane of the media, creating a false passage that admitted easily two fingers. There was a rupture of the aneurysm at its beginning into the left pleural cavity, the opening measuring 1½ cm. There were atheromatous plaques scattered throughout the aorta. The heart weighed 600 grams and the left ventricular wall measured 3.5 cm. at the base. The lining of the coronary arteries was smooth and pale and there were no valvular lesions.

DISCUSSION

The symptoms in this case were predominantly abdominal to the extent that laparotomy was performed. The abdominal pain was due to the dissection extending down the abdominal aorta and left common iliac. Arteriosclerosis and hypertension were both present.

CASE REPORT No. 5

A. G., a colored female, 60 years of age, was admitted to the Shreveport Charity Hospital in a comatose condition. From her husband was obtained the history that she had been sick for a week. Illness began suddenly with fever which had continued and she had had several chills. During this time she had pain in the right shoulder, nausea, vomited once, and for several days a diarrhea, six to eight stools a day, but no blood. The past history as obtained contributed nothing of importance.

She was fairly well nourished, in partial coma with rapid, shallow respiration. Oral hygiene was poor with some teeth missing and some carious. There were fine moist rales at the left base posteriorly. The heart was not enlarged, there were no murmurs, the sounds were distant, rhythm regular, pulse 140 and the blood pressure was 148/66. The entire abdomen was apparently tender to deep and superficial palpation. The right shoulder was tender and motion was limited and painful.

The total white count was 33,050, with 71 per cent neutrophils. The urine showed a heavy trace of albumin and the sputum was negative for tubercle bacilli. An x-ray of the chest showed widening of both hila zones with congestion at the bases.

She was in the hospital from September 15, to September 27. During this time she was acutely ill, her temperature ranging from 98.6 to 104 F., pulse 110 to 140, and respiration 30 to 40. At no time was she entirely rational and she expired on September 27, about 11:00 a. m.

Autopsy revealed several superficial bedsores in the sacrococcygeal region, a large oval ulceration on the medial aspect of the left thigh and several superficial ulcers on the left leg. There was some yellowish purulent material in the left pleural cavity, the lower left lobe was largely atelectatic and the pleura covered with flakes of fibrin. The heart weighed 200 grams and the myocardium was of a chestnut brown color. There was arteriosclerosis of the coronary arteries and the aorta. At the mid-portion of the thoracic aorta, there was a circular dissecting aneurysm measuring 4 cm. in length. There was a rupture of the intima 1½ cm. in length on the posterior wall. The aneurysmal space was filled with thick bloody material that resembled puriform material, smears from which showed streptococci. Smears from the pleural exudates showed no organisms.

DISCUSSION

The very unusual finding of an infected dissecting aneurysm was present in this case. I have not seen the report of a similar case. How long the aneurysm had existed we do not know, nor do we know the source of the streptococcal infection. It is of course possible that the primary infection was in the left pleura with extension to the aneurysm. Again arteriosclerosis was present, without cardiac enlargement or hypertension.

CASE REPORT No. 6

J. W., a colored male laborer, 28 years of age, entered the Shreveport Charity Hospital complaining of pain in the upper chest. On July 4, 1938, without previous symptoms, he suddenly developed a severe pain in the upper mediastinum which radiated up the neck to the mastoid regions, to the left shoulder, and downward to the kidney region. Large drops of perspiration appeared on the skin and within a few minutes he fainted. He regained consciousness shortly, but was quite uncomfortable because of the chest pain. After an hour or so, he was somewhat relieved but was never completely comfortable.

Palpitation of the heart had been present from time to time for several years but he had never experienced dyspnea or noticed edema. He had pneumonia in 1926 and 1930, and in 1937 contracted gonorrhea and syphilis.

On examination, he was described as well nourished, mentally clear and in no apparent acute distress. The systolic blood pressure was 140 and the diastolic was 100 (left) and 105 (right). Temperature was 99.4 F., pulse 100 and respiration 20. The right side of the neck was slightly tender but there were no masses or visible pulsations. The lungs were clear and resonant. The PMI was in the fifth interspace inside the midclavicular line and a to-and-fro murmur was heard in the aortic area. By percussion the mediastinum was 9 cm. in width at the second and third interspace. The liver was palpable at the costal margin. A small scar was present on the anterior aspect of the glans penis.

Examination of the blood showed 18,600 white cells with 65 neutrophils, 33 lymphocytes and 2 large mononuclears. On the following day the count was down to 11,600 with 70 neutrophils. The Kahn was four plus. The urine showed a specific gravity of 1.031, faint trace of albumin, 30 pus cells per high powered field and an occasional red cell. An electrocardiogram showed sinus rhythm with a rate of 70. The conduction was normal and the electrical axis normal. The T waves in Leads I and II, were upright and isoelectric in lead III.

The x-ray of the chest showed marked enlargement of the mediastinal zone, reaching well above the sterno-clavicular joint.

During his eight day stay in the hospital the temperature was usually normal but reached 100 F., on the third and fifth days. The pulse ranged from 70 to 100 and was charted as slow as 60 on one occasion. The respiratory rate was normal. On the day of admission the nurse noted that he complained of pain in the chest. Again on the night of the fourth day he complained of pain in the left shoulder and inability to make himself comfortable. He was permitted to go home on the eighth day with instructions to remain in bed.

During the evening visiting hour of the following day he visited patients in the hospital. During the same night his wife was awakened by his gasping for breath. She was unsuccessful in her attempt to arouse him and brought him to the hospital. He entered the hospital at 1:30 a. m., in profound shock. The skin was cold and clammy, he was unconscious and the blood pressure could not be obtained. The heart sounds were inaudible. Heat was applied to the body and he was given infusions, digalen and adrenalin but never rallied. He expired at 12:30 p. m.

The autopsy revealed a pericardial tamponade due to hemorrhage, 1000 c.c. of blood, from perforation of a recent dissecting aneurysm of the ascending aorta. The heart weighed 300 grams and showed simple sclerosis of the mitral leaflet. About 5 cm. above the aortic cusps the lining of the aorta showed a circular rupture which almost encircled the organ. This extended through both the intima and media and also involved the adventitia. There was some dissection both proximally and distally, about 9 cm. in entire length.

There were atrophic longitudinal and angular white scars in the vicinity of the rupture described above. Quite definite arteriosclerosis was present in the lining of the aorta and in the large vessels arising therefrom, including particularly the left coronary which showed considerable involvement. The spleen weighed 90 grams and the liver 2300 grams. The right suprarenal was almost completely replaced by a slightly nodular, brownish-red tumor, measuring 7 cm. in diameter, which proved to be a paraganglioma.

DISCUSSION

This case was particularly interesting because of the presence of the paraganglioma and its possible relation to the dissecting aneurysm. Paragangliomas may be the cause of hypertension and it is possible that elevation of the blood pressure at intervals due to the paraganglioma was the cause of the initial rupture and the later external rupture. Frequent blood pressure readings were not made during his stay in the hospital. The to-and-fro aortic murmur present was not due to syphilitic involvement of the aortic valve, but to dilation of the aortic ring resulting from proximal dissection of the aneurysm. Again there were both arteriosclerosis and syphilis present.

FREQUENCY

Shennan,[1] in his excellent review of the subject, collected 300 cases of dissecting aneurysms of the aorta, three of the pulmonary artery and six of the peripheral arteries. Eleven of Shennan's personal cases were seen at Aberdeen from 1918 to 1932, during which time there were 1,922 autopsies, an incidence of 0.57 per cent. Perry[2] reports five cases in 2,763 autopsies, an incidence of 0.18 per cent. Glendy, Castleman and White[3] reported an incidence of one in 630 autopsies, 0.16 per cent. At the Shreveport Charity Hospital there have been six cases in 3,400 autopsies, from 1929 to 1939, an incidence of 0.18 per cent.

AGE AND SEX

The majority of dissecting aneurysms occur between the ages of 40 and 70 years, though they may occur earlier, as one of our patients was 28 years old. It has also been noted in young individuals associated with coarctation of the aorta. Males have predominated in the cases reported. Of the six cases I am presenting, four were males and two females, and their ages were 28, 39, 55, 56, 60 and 66 years.

PATHOLOGY, ETIOLOGY AND PATHOGENESIS

Dissecting aneurysms begin usually in the ascending aorta, though they may begin in the transverse or descending aorta. There is a tear of the intima, usually transverse, 1.5 to 2 cm. in length and about 1.5 cm. above the aortic ring. The tear extends through the intima and part way into the media, usually to the outer third, where the penetrating blood finds a line of cleavage and begins to dissect. The dissection is between the middle and outer third of the media, and generally extends about one-half to two-thirds way around the circumference. The dissection may extend proximally down to the aortic ring and distally varying distances, even involving the entire aorta and extending into the iliac vessels, as in Case 4.

Generally, the external sheath cannot withstand the internal pressure so that rupture occurs, usually into the pericardium, as in three of my cases, but if more distal into the pleural cavity, mediastinum or retroperitoneal tissues. Rarely the blood may re-enter the lumen of the vessel, producing a double-barrelled tube, said by Osler[8] to be the most remarkable reparative process seen in the body. A new lining forms in the new channel by organization to fibrous connective tissue of a thin layer of thrombus deposited on the damaged surface and by extension of the endothelium into the new channel from the mouths of ruptured aortic branches, as described by Shennan[1].

The generally accepted explanation for the dissection was that it arose on the basis of atheromatous changes in the aorta. But since most dissecting aneurysms begin in the ascending aorta, where atheromatous changes are not prominent, and may occur in younger individuals, it has cast a considerable element of doubt as to the importance of this factor. In Shennan's series of cases, 109 out of 218 recent dissecting aneurysms had atheromatous changes present and of these in only six instances did the dissecting aneurysm begin at the base of the atheromatous ulcer. In the group reported by White and his associates, in four cases the primary intimal tear was on the basis of an arteriosclerotic ulcer, but in none of these did it occur in the ascending portion. They conclude that although arteriosclerosis is one of the causes of dissecting aneurysms, it is responsible for only a small percentage. Arteriosclerosis was present in five of our cases.

Shennan,[1] after a very extensive review of the possible factors, concluded that the most important determining factor in the causation of dissecting aneurysms is degeneration of the media, due in most cases to the selective actions of toxins of the most varying kinds on the muscle fibers, followed by degeneration of the elastic tissue; these associated with hyaline, mucoid, or apparently serous degeneration of the connective tissue. This type of lesion predominated in White's[3] series and usually results in cyst formation or what has been termed "faults" produced by various toxic agents associated with previous infection.

Syphilis apparently plays a minor role in dissecting aneurysms. The changes produced by syphilis largely in the adventitia and outer third of the media are readily productive of saccular aneurysms but not dissecting aneurysms. The idea is also advanced that there is a specific mesoarteritis in vascular syphilis which causes a fusion of the layers of the media, thus welding together the lamellae of this coat and making splitting almost impossible. Osgood, Gourley, and Baker[4] consider the association of syphilis merely a coincidence, pointing out that it is no more common in this condition than in the general population. After an analysis of the available data, they conclude that hypertension is by far the most important factor in the pathogenesis.

In this group, hypertension was present in four cases, not determined in one, and the other was septic. Definite arteriosclerosis was present in five of the six cases, and associated with anatomic evidence of syphilis in four cases. It is our impression that hypertension and the changes of arteriosclerosis are the most important factors in pathogenesis.

The immediate exciting cause of the dissecting aneurysm, acting in the presence of a diseased aorta, is generally a sudden increase in blood pressure produced by exertion, straining, or excitement. In one case the pain developed while walking.

Approximately 70 per cent of the intimal ruptures begin in the ascending aorta, 20 per cent in the transverse arch, and about 10 per cent in the descending aorta. In this group, the intimal rupture occurred in the ascending aorta in four cases, descending aorta one case, and the transverse aorta once. In discussing the location of the primary rupture, Shennan[1] places considerable importance on the effect of the repeated diastolic recoil, reflection of the pericardium, and relationship of the pulmonary artery, right main branch, to the upper part of the ascending aorta. He assumes that these factors place greater strain on the ascending aorta and at certain points, thus increasing the incidence of tears and determining their location.

SYMPTOMS

Dissecting aneurysms are characterized by sudden onset, usually following exertion, excitement, or injury, with severe pain beginning in the chest, occasionally in the abdomen and radiating to the abdomen, lumbar region, shoulder blades, neck or the arms. The pain is described as sharp, tearing, or as if something had given way inside. Hamburger and Ferris[5] report six patients with dissecting aneurysms, only two of whom suffered severe pain, the outstanding symptom being syncope or weakness. Prostration and shock usually follow with loss of consciousness and dyspnea. The severe pain may continue throughout the course of the disease up to death, particularly so if the dissection is extensive or if external rupture occurs early. Rarely the pain may subside and with internal rupture not recur. Often there may be relief from pain for a period of days or weeks followed by sudden recurrence with collapse and death due to extension of the dissection and external rupture.

Hypertension is generally present and usually persists. In those patients seen during the period of shock and who expire early, there is generally anatomic evidence of pre-existing hypertension.

Dysphagia occurs as the result of the direct pressure of the sac upon the esophagus or from involvement of the inferior laryngeal nerve. Hoarseness occasionally is present, usually the result of hemorrhage into the mediastinum.

PHYSICAL FINDINGS

Physical examination reveals an individual suffering considerable pain, apprehensive and frequently in shock. There may be dyspnea and cyanosis. The pulse rate may be normal, or rapid, and the blood pressure is generally elevated, though it may be low or normal as a result of the state of shock.

The heart generally shows left ventricular enlargement resulting from hypertension and the supracardiac dulness is broadened. Murmurs may or may not be present. An aortic diastolic murmur may develop due to relative insufficiency of the aortic valve caused by dilation of the ring, following upon dissection of the aortic coat down to the valve cusp.

Inequality of the pulse in the extremities may be noted and is an important sign. It is due to the dissection involving the vessel to that extremity. Hamburger and Ferris[5] report a case with increase in the volume of the pulse in the left common carotid artery with tenderness along the course of the vessel. They explain this on the basis of a spontaneous periarterial sympathectomy due to the dissection, with a resulting dilation of the vessel similar to that which follows surgical sympathectomy. Involvement of the branches of the aorta may produce obstruction, resulting in coma, hemiplegia, gangrene of the extremities, paralytic ileus or anuria.

Roesler, Gifford and Betts[6] call attention to the appearance of an area of pulsation which shifts rapidly and is associated with rapid changes in the roentgenologic appearance of the aortic shadow. They also call attention to the roentgenologic diagnosis, stating that if the newly formed aneurysm involves only a part of the circumference of the aortic vessel and has a predominantly lateral location, with respect to the direction of projection, it will be visualized as an outer, lighter shadow, usually of fairly even width, superimposed in a shell-like fashion upon the aortic shadow proper. The latter then appears as a more dense nuclear shadow, the size and shape of which is commonly, though not necessarily altered in the sense of dilation, fullness and tortuosity.

In discussing the roentgenographic features, Wood, Pendergrass, and Ostrum[7] made these observations:

1. There is a deformity of the supracardiac shadow. Frequently an arcuate excrescence extends outward from some point in the aortic arch. This shadow may or may not pulsate.

2. The shadow produced by an extension of the dissection along one or more of the large branches of the aortic arch is probably the most pathognomonic roentgenologic sign.

3. Displacement of the esophagus and trachea may occur.

4. The heart is usually enlarged.

5. Fluid is frequently present in the left pleural cavity. Non-fatal rupture of the aneurysm into the left pleural cavity occurs quite often in these cases.

6. Non-fatal rupture of the aneurysm into the periaortic tissues may produce a bizarre roentgenographic appearance.

The white cell count is generally increased, 15,000 to 30,000, with increase in the neutrophils. White cell count on three of my cases were: 8,800, 18,600 and 33,050. The last count was due largely to infection of the aneurysmal sac and contents. Osgood, Gourley and Baker[4] consider an increase in the icterus index due to bilirubin formation from hemoglobin destruction in the clotted blood, as the most valuable laboratory change, when present.

The electrocardiogram shows nothing characteristic of this condition, but is helpful in diagnosis by exclusion of coronary occlusion. Frequently there is left axis deviation and evidence of myocardial disease. Hamburger and Ferris[5] reported a case of dissecting aneurysm of the aorta with electrocardiograms simulating those of acute coronary occlusion, and attributed to partial occlusion of the right coronary artery by blood surrounding the vessel. Osgood, Gourley and Baker[4] reported a case with electrocardiograms simulating coronary occlusion with infarction, in which no myocardial infarct was found. An electrocardiogram was made on one case of this group. The cardiogram was essentially normal, and aided only in excluding coronary occlusion.

DURATION AND PROGNOSIS

Undoubtedly many patients die immediately, the internal rupture being almost simultaneous with the external rupture. In Shennan's[1] collected cases the duration of life after onset varied from a few hours to five weeks. In the White[3] et al. series, duration in ten of thirteen acute cases averaged 4.15 days. In the other cases the duration was 105, 56, and 36 days. In our group, the average duration of those cases that ruptured was 8.75 days.

Death is due to external rupture in 95 per cent of the cases. In about 70 per cent, rupture is into the pericardial sac, next into the left pleural cavity, into the mediastinum, and occasionally into the right pleural cavity, the abdominal cavity or the retroperitoneal tissues. White[3] et al. reported one death due to complete occlusion of the aorta near its bifurcation without rupture, and one due to anuria of unknown cause. In our group, death was due to rupture into the pericardium in three cases and the left pleural cavity in one case. In one case, death was due to sepsis resulting from a streptococcal infection in the aneurysmal sac.

DIAGNOSIS

Dissecting aneurysm must be differentiated from coronary occlusion, embolism, syphilitic aneurysm, and surgical abdominal emergency.

In one of our cases the diagnosis of surgical abdominal emergency was made and laparotomy was performed. This diagnosis is suggested by the abdominal pain resulting from involvement of the abdominal aorta, but the suddenness of the severe pain, its duration, radiation, history of hypertension, and absence of previous abdominal complaints should suggest the correct diagnosis.

Syphilitic aneurysm should be readily differentiated except in those cases seen after sudden death from rupture. Syphilitic aneurysms rarely cause sudden symptoms and are not necessarily associated with hypertension. The physical and roentgenologic findings should make the differentiation clear.

Embolisms, pulmonary, or of some other part of the body, may be confusing, but they usually occur in patients who have been confined to bed and have some evident source of the embolism.

Coronary occlusion perhaps offers the most difficulty or at least must be excluded in making the diagnosis. The character of the pain in coronary occlusion is different, being described as constricting, while that of the dissecting aneurysm is tearing. The pain of coronary occlusion seldom radiates to the back and never to the lumbar or sacral regions as in dissecting aneurysm. The signs of pericarditis, fall in blood pressure, congestive failure, and typical electrocardiographic changes all indicate coronary occlusion. The frequent persistence of the hypertension and the evidence of obstruction of the arterial circulation to some part of the body suggest dissecting aneurysm. Osgood, Gourley, and Baker[4] place considerable emphasis upon the elevation of the icterus index as found in dissecting aneurysms as a differential point. Anemia, unexplained aortic insufficiency and fluid in the left pleural cavity, following an attack of supposed thrombosis, are findings suggestive of dissecting aneurysm. If this fluid is blood, one's suspicions should be definitely aroused.

TREATMENT

There is no satisfactory method of treatment. Absolute rest in bed with the hope that internal rupture into the lumen of the vessel may occur, should be insisted upon.

SUMMARY

Six cases of dissecting aneurysms with autopsy findings are reported. The relationship of arteriosclerosis and hypertension and dissecting aneurysms is pointed out.

The sudden development of acute pain in the chest or abdomen with wide distribution, followed by collapse and associated with cardiac enlargement and hypertension in an individual 40 years of age and older, should suggest the diagnosis of dissecting aneurysm.

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DISCUSSION

Dr. John H. Musser (New Orleans): Dr. Hargrove has had quite a unique experience in having had six patients who died of dissecting aneurysm. He says in his paper that at autopsy this condition occurs a bit more frequently than apparently we can judge from our clinical practice. In a large series of cases the condition was found in about 0.18 per cent of 3400 autopsies. I wonder if the large number of cases, relatively speaking, discovered at autopsy is not due to the fact, as he has pointed out, that many of these patients died a sudden death, consequently they became coroners' cases and an autopsy was performed. I really believe that dissecting aneurysm is less common than 0.18 per cent of all deaths.

I was quite interested in his statement that syphilis plays an insignificant role in the production of this condition, and yet in his six cases, four had syphilis. It has been my experience that patients I have seen who had dissecting aneurysm have almost invariably had syphilis. I wonder if it is not a theory rather than a fact about the syphilitic, that it is not so that they do not have dissecting aneurysm.

With regard to the diagnosis: it sounds very easy to make a diagnosis by following the criteria outlined by Dr. Hargrove, yet I am quite willing to confess and am quite willing to place a small bet with Dr. Hargrove that these cases are very rarely diagnosed correctly, and that generally the diagnosis is made of coronary occlusion. Some of the facts he pointed out are really of no help in the early diagnosis, for example, the persistence of hypertension. Yet, as he says in his paper, hypertension is not present during the acute stage of shock, and these patients, in spite of the fact that his six people lived eight and a half days, usually die promptly without coming out of shock.

I am quite sure that the diagnosis of coronary occlusion is made frequently wrongly in people who die suddenly who have this type of aneurysm.

One other point I want to bring out. Several of these patients were young, one 28 years old. As a rule, the disease does attack older people and it is quite unusual to find a man at autopsy who has passed but a few of the required years of life and who has died as a result of this condition. The explanation is that the two patients were young syphilitics, and when they died, at autopsy they were found to have dissecting aneurysm.

I think Dr. Hargrove has done us a real favor by pointing out the importance of this condition. It is quite possible that the coronary occlusion phase is more likely to occur to us in view of the fact that so many deaths from coronary occlusion are sudden deaths, but we should bear in mind that it is possible for the cardiac patient to die suddenly of dissecting aneurysm and not of coronary occlusion.

Dr. W. R. Mathews (Shreveport): A problem of considerable interest in this disease is the identification of aortic lesions which are important in the dissection. Older views held that atheromatous cracks in the intima, and syphilis, were largely responsible. In sixteen years at Johns Hopkins, Osler had seen two aortic dissecting aneurysms, both of which were thought to have developed on the basis of a luetic mesaortitis. Such an observation indicates both the rarity of the disease and the view, as to etiology, of a distinguished clinician who had had a large autopsy experience. At the present time there is no unanimity of opinion regarding syphilis as a causative factor. It probably plays little or no part when unassociated with medial degeneration or necrosis of another origin.

Dr. Hargrove has already pointed out the greater incidence of ulcerated atheromata in divisions of the aorta where dissecting aneurysms are uncommon and, also, the infrequency of the dissection commencing in an ulcer. It might further be pointed out that the intimal tear is usually clean cut, giving the impression of having been cut by a razor. If the dissection involves an ulcerated atheroma one is justified in assuming that it may have permitted passage of blood into the aortic wall with consequent dissection. In the presence of hypertension this probably is one of the mechanisms by which dissecting aneurysms form.

Probably a more frequent mechanism is the rupture of one or more vasa vasorum into the degenerated media with the formation of a hematoma. The high pressure within the aorta tends to propel the blood in the media along and around the vessel. If an intimal tear develops it is probably an effect rather than the cause of the condition. The blood in the media splits the atheromatous intima and empties into the lumen before it ruptures externally. The possibility of this mechanism makes it difficult if not impossible to evaluate atheromatous cracks as the starting point of dissecting aneurysms.

Medionecrosis with or without cyst formation is an important factor in both the development of dissecting aneurysms and rupture of the aorta.

Rarely the lesion develops on the basis of a congenitally defective or hypoplastic media. Overdistention of the vessel due to increased intravascular tension results in rupture of the intima. However, rupture of the aorta is probably more frequent in this condition than dissecting aneurysm.

Dr. Allan Eustis (New Orleans): I want to emphasize one point for those who are not familiar with this condition; who have not seen cases of dissecting aneurysm. We should differentiate distinctly in our minds between ruptured aortic and dissecting aneurysms. As Dr. Musser said, this is an acute condition, an acute tear of the intima; blood oozes between the layers of the aorta and down through the dorsal aorta, into the pericardium, and even burrows at times into the layers of the innominate artery. This is quite different from ruptured aortic aneurysm.

There was one case, a man of 65 years of age whom I had observed for twenty-five years, with chronic valvular heart disease; he was overresponsive to the cardiorespiratory test, his systolic blood pressure mounting to 220 from 150. Before the attack this patient had been addressing a church meeting when he suddenly collapsed; he became deathly pale and began vomiting, but did not lose consciousness. He was moved to Touro where I saw him one hour later and made a diagnosis of coronary occlusion. Dr. Heninger, however, ran an electrocardiogram and said I was wrong, that it was not coronary occlusion. I asked him, "What is the matter?" You could not feel the patient's pulse. The intern who had seen a case of dissecting aneurysm on Dr. Musser's service, made the diagnosis of "dissecting aneurysm." The man lived twelve hours. The symptom of severe abdominal pain of which he had complained was explained at postmortem, when a dissecting aneurysm extending down the dorsal to the abdominal aorta was found. I simply wish to repeat what Dr. Hargrove and Dr. Musser said: "Before you make a diagnosis of surgical abdomen, think of the probability of a dissecting aneurysm."

Dr. Willard R. Wirth (New Orleans): I have recently had the fortunate experience of making a diagnosis, antemortem, of dissecting aneurysm on a patient seen with Dr. Folse and Dr. Martin of Donaldsonville, fortunate, because I was able to watch the patient sufficiently long to follow certain clues and make the diagnosis. Of course, the diagnosis has not been proved as yet; the patient is still alive after four and a half weeks. This man had apparently an acute coronary occlusion with infarction: pain in the chest, with sudden onset. The electrocardiogram was negative shortly after the onset, and another one in twenty-four hours was again absolutely negative. This man was 52 years old, and a known hypertensive of quite long duration.

After the second electrocardiogram was negative, I suggested the possible diagnosis of dissecting aneurysm. I went back to the patient then because of the negative electrocardiogram, bearing in mind, however, that I have seen cases of proved coronary occlusion in which the electrocardiogram was not typical until forty-eight hours, and one case seventy-two hours after the apparent onset of occlusion. Frequently in these cases there were changes in the electrocardiograms, but not typical enough to make a definite diagnosis of occlusion. I went back to the patient with this idea in mind, and found out the difference in systolic blood pressure in the two arms, and as we watched the man we found the difference increasing, and found a definite difference in pulse volume in both arms with a distinct weakening, a decrease in volume in the right radial as compared with the left, the right blood pressure being lower than the left. We watched the development of aortic regurgitation. A systolic murmur was present at the aortic area and a soft diastolic murmur which increased, and there is now a marked to-and-fro murmur. The temperature went to 103° and that was another thing against the diagnosis of occlusion. The leukocyte count reached a maximum of 12,000. The man now has definite capillary pulsation from the aortic regurgitation, a psychosis which we believe due to pressure or dissection into the carotid, and all the signs of a dissecting aneurysm.

The unusual duration of this particular case is interesting, although there have been cases said to last years and terminating eventually with rupture. This man, however, because of his irrationality has on several occasions gone through tremendous effort, being restrained.

The frequency with which antemortem diagnosis is made is interesting, there being only fifteen authentic cases in the literature of antemortem diagnosis.

I think the electrocardiogram is helpful in a negative way. A negative electrocardiogram with an onset simulating coronary occlusion is very suggestive.

Dr. B. R. Heninger (New Orleans): To me this subject is very important because of the fact that the profession, particularly the internists, appreciate this condition and seem to be more mindful of it at this time. I am sure that in the last year there must have been found in the literature some twenty or thirty odd cases of dissecting aneurysm that came to my attention in the different reports of Roesler, Paullin and others, and there are some interesting features of this subject that impressed me, first, the cases I have seen and the case Dr. Eustis mentioned. Just last week, at the clinicopathologic conference at the Medical Center, a case of a colored man of 34 with dissecting aneurysm was diagnosed antemortem by the intern on the Tulane service and proved at the autopsy table.

I agree with Dr. Musser that the diagnosis is difficult. On the other hand, in the past four to five years I have had experience with four to five cases of dissecting aneurysm, and I am inclined to agree with Dr. Hargrove that syphilis plays a small part in the etiologic background of dissecting aneurysm. But there are two important things that I believe should be practically always present in dissecting aneurysm, and these are changes in the aorta, particularly in the median coat, and hypertension. Now, the diagnosis of dissecting aneurysm depends on the stage in which the patient is seen. For instance, I would classify dissecting aneurysm into two parts. The initial stage, namely the actual splitting of the coats of the aorta is associated with excruciating pain which may be either abdominal or thoracic. In the case which was just mentioned and which was seen last Wednesday at the conference, the pain radiated toward the right scapula and the evidence leading to the diagnosis was for the clinical history of aortic disease accompanied by aortic valvular disease. The initial rupture or splitting of the layers of the aorta is accompanied by shock, falling of the blood pressure and in that particular, we may err by considering the case as one of coronary thrombosis with or without infarction. In the event the patient survives this initial stage, the picture assumes an entirely different aspect, the excruciating pain is alleviated, there may be a low grade temperature with leukocytosis, and in some instances the electrocardiogram may suggest coronary disease, but the use of serial cardiograms will frequently lead to the correct diagnosis. At this time, I remember distinctly a man with a dissecting aneurysm of the abdominal aorta who drove an automobile over 100 miles and upon arrival at Touro, the clinical picture noted first was entirely different from that noted four days later at the time of death. Serial cardiograms in this particular case ruled out coronary infarction and at the autopsy table a dissecting aneurysm was revealed.

So, we must keep in mind the possibility of dissecting aneurysm as a clinical entity, and, secondly, we must take into consideration the change in the clinical picture of a dissecting aneurysm from the initial onset accompanied by pain and shock from what I term the second stage in which the patient survives the initial onset and there is some relief of the pain and other manifestations, commonly seen with the initial splitting. These changes from the first to the second stage, I feel certain are the source of any errors in our antemortem diagnosis.

Dr. M. D. Hargrove (In conclusion): Our conclusions that the major factors in the pathogenesis are hypertension and arteriosclerosis may be wrong when we consider that four of the six patients had syphilis and five had gross evidence of arteriosclerosis. It is my impression though, that syphilis, since its effects are confined to the adventitia and the outer third of the media, would be less likely to cause dissecting aneurysms.

I would not leave the impression that I feel that diagnosis is at all easy. None of these six cases were diagnosed antemortem. I must confess that I saw one of the patients, the 28 year old negro male, and missed the diagnosis.

The electrocardiogram must not be completely relied upon in the differential diagnosis of coronary occlusion and dissecting aneurysm. If negative, it may be definite, but if positive the differentiation is not absolute. There have been a few cases of dissecting aneurysms reported in which the electrocardiogram has been rather characteristic of coronary occlusion. This is explained on the basis that because of proximal dissection of the aneurysm there has been interference with coronary flow. Osgood reports such a case.

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THE NEW OFFICERS

Again it is the pleasant duty of the Journal to extend felicitations and congratulations to new officers of the State Medical Society, elected at the recent meeting in Alexandria. The Journal also wishes to express its pleasure at the re-election of many who have served faithfully and well in the organization.

We have already written about Dr. Lorio who is the new President. Of Dr. C. Grenes Cole, the President-elect, much may be said that is favorable and nothing that is unfavorable. A true gentleman, a thoroughly delightful person and a raconteur unsurpassed, Dr. Cole will bring to the presidency attributes which will make for the smooth running of the organization and for the accomplishment of many desirable attainments. Dr. Cole is not only a physician of reputation, he is also an excellent executive. He has shown this, as coroner of the City of New Orleans, in the able way in which he has conducted this office.

Dr. D. B. Barber was elected First Vice-President. Dr. Barber, as General Chairman of the recent enjoyable meeting in Alexandria, labored hard and faithfully to make the convocation the success that it was. We are indeed glad this expression of appreciation goes to him. As Second Vice-President Dr. E. L. Zander was elected; he is a man of deserved popularity in New Orleans and throughout the state. As Third Vice-President Dr. J. P. Mauboules will function. This country practitioner is known throughout the state for his ability and his accomplishments. He has been for an untold number of years a member of the House of Delegates and always he has been attentive and faithful to his duties.

Dr. C. C. deGravelles, Dr. Rhett McMahon, Dr. Claude A. Martin and Dr. W. F. Couvillion were re-elected as Councilors for the 3rd, 6th, 7th and 8th Districts, respectively. These gentlemen have been active for many years in organized medicine, have always been liked and have always been interested in the welfare of the State Society, particularly through their District organizations.

Dr. J. Q. Graves, who has served faithfully and intelligently as Delegate to the American Medical Association, was re-elected. Dr. A. A. Herold was elected to serve the unexpired term of the late lamented Dr. Seemann. Dr. J. B. Vaughan was chosen as alternate to Dr. Graves and Dr. C. L. Peacock as alternate to serve Dr.

Herold's unexpired term. Our representatives in the House of Delegates can be counted upon to maintain the high standards that we have expected and get from the Louisiana delegation to the parent organization.

On the various Committees most of the men holding office were re-elected. Dr. F. E. LeJeune replaces Dr. Herold on the Committee on Scientific Work. Dr. H. B. Alsobrook and Dr. Rhett McMahon are two new members on the Committee on Public Policy and Legislation. We are particularly pleased that Dr. H. W. Kostmayer was chosen to serve Dr. Seemann's unexpired term on the Journal Committee. Dr. Kostmayer has always been most active in furthering the interests of the Journal and with his previous experience as Chairman of this Committee he will be a welcome addition. On the Committee on Medical Defense, and Committee on Health and Public Instruction, and Committee on Hospitals, all the present members were re-elected. Dr. D. T. Martin, however, replaces the late Dr. Signorelli.

We feel the work of the Society and its future is in excellent hands. May all future elections be as happy as this last one.

THE WAGNER BILL

The Wagner Health Bill was presented before the House of Delegates of the American Medical Association at the recent meeting of this organization. Without a dissenting vote the House rejected approval of this proposed health act. The reasons for condemning the Wagner Bill are so definite, so succinct and so well grounded that it will not be amiss to review the report adopted by the Reference Committee of the House of Delegates.

Amongst other things it states that this health bill does not safeguard in any way the continued existence of the private practitioner. These doctors have always brought the people the benefits of scientific research and treatment. The Bill does not provide for the use of the innumerable beds that are now available in hospitals of all types. The Bill recommends Federal aid for medical care as a rule rather than an exception. The Bill definitely does not appreciate the fact that proper food, sanitary housing and other environmental conditions are necessary in order properly to prevent disease. The Bill insidiously promotes the development of a complete system of tax supported Government care. Although it does provide compensation for loss of income during illness, it proposes also to give complete medical services in addition to this compensation. It provides for supreme Federal control, the Federal agents having the authority to approve or disapprove of plans suggested by the various states. It does not call for any method to determine the nature and extent of the needs for preventive medical services for which it would allot funds. It implies by innuendo that any unfortunate health conditions in the United States are the result of unequal standards and irregular methods of medical practice.

These are a few of the reasons that the Reference Committee gave for opposition to the Bill. They have been quoted almost verbatim. The closing paragraphs will be quoted exactly:

"No other profession and no other group have done more for the improvement of public health, the prevention of disease, and the care of the sick, than have the medical profession and the American Medical Association.

"The American Medical Association would fail in its public trust if it neglected to express itself unmistakably and emphatically regarding any threat to the national health and well being. It must, therefore, speaking with professional competence, oppose the Wagner Health Bill."

SULFAPYRIDINE IN TREATMENT OF PNEUMONIA

Although the pneumonia season is presumed to be over, nevertheless, two weeks before this was written, the State Board of Health reported in its weekly bulletin 49 cases of pneumonia. Pneumonia in the

South does not have truly the same seasonal incidence as it does in the North, nor is it as common a disease. It is, however, sufficiently frequent that it is as likely to happen in the practice of any man as any other of the infectious diseases; consequently, every practitioner of medicine should be familiar with the recent work on sulfapyridine. The various national meetings that have been held in the past two months accentuated the importance of this very effective drug which has been reported upon fairly extensively in the literature and about which there will be very much more in the next few months. Even at the risk of tiresome repetition it might be well to review a few of the facts known about sulfapyridine, how to administer it and the dangers inherent in its use.

Just how sulfapyridine acts in pneumonia is not known definitely. It has an antipyretic effect and certainly stimulates the immunologic processes of the body to combat the infection, although in vitro it is not nearly as powerful as are many antibacterial substances. It is not a germicide in the true sense of the word; perhaps it may act in conjunction with an enzyme.

The drug is absorbed reasonably rapidly by the gastrointestinal tract although qualitative blood determinations do not show as constant an absorption as with sufanilamide. It is eliminated relatively rapidly. In a general way it may be said that blood concentration varies very much in different individuals, depending on the rate of absorption, the rate of acetylation and of elimination. A series of cases recently reported shows that the blood concentration is not as important a factor in the curing of pneumonia as it is with sulfanilamide in the cure of streptococcal infections.

In the scientific exhibit of the American Medical Association the dose generally recommended was two grams given every four hours for two doses, then a maintenance dose of one gram every four hours until the temperature had returned to normal and remained there for forty-eight hours; after this one gram was advised every eight hours for the next twenty-four hours. According to the report of Meakins and Hansen,* their average total dose was 27 grams but some patients received as much as 50 grams without any ill effect. Some authors advise a greater individualization and not the dogmatic administration of a definitely preconceived amount of the drug. Under any circumstance it is advisable to give a large initial dose because from time to time people become sulfapyridine-fast.

The response to sulfapyridine is often dramatic; dyspnea improves, cyanosis disappears, pulse rate falls, temperature drops and the patient shows marked general improvement. Occasionally, in cases that are gotten early in the course of the disease, the improvement is comparable to a crisis, although the physical signs still remain.

One of the difficulties of the administration of sulfapyridine is nausea which may be associated with severe vomiting. It is said to make difficult the taking of the drug by mouth in a third of the cases, but in only one out of every ten patients does it interfere with treatment. Vomiting may be controlled in part by giving salt solution intravenously. Sometimes it is necessary to give alkalies in large doses at the same time the drug is administered. The sodium salt of sulfapyridine has been found by many to be effective, given by rectum if the oral medication is prevented because of the severity of the vomiting. The drug has also been used intravenously but, inasmuch as it is apparently absorbed quite promptly from the rectum, this relatively dangerous procedure need not be employed.

Of the untoward effects of sulfapyridine treatment the most dangerous is a pronounced drop in the white cells and an acute hemolytic anemia. Consequently it is always advisable to follow the course of the administration of the drug with frequent blood counts. At times the drug produces kidney irritation as shown by hematuria and occasionally, but rarely, anuria. Toxic hepatitis may develop. Drug rashes are by no means uncommon. Cyanosis occurs in about one patient of every twenty and can be controlled by methylene blue. Once in a while a patient complains of vertigo and headache and sometimes mental depression is rather pronounced. It is always a habit to report on the untoward effect of drugs but with care and caution the ill effects of sulfapyridine should not prove dangerous. As a matter of fact, the drug is so efficacious and so valuable in the treatment of pneumonia that these dangers should be minimized rather than magnified.

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*Meakins, J. C. and Hansen, F. R.: The treatment of pneumococcal pneumonia with sulfapyridine, Canad. M. A. J., 40:333, 1939.

The question arises as to whether or not antipneumococcic serum should be given concomitantly with sulfapyridine. Men who have had the opportunity of seeing many cases of pneumonia advise giving the serum if it is available by type specificity. Some workers in the pneumonia field say it always should be given if bacteriemia exists, if there is extensive involvement of the lungs, if the patient is pregnant or if the patient is well on in years. This is the part of conservatism and this is the recommendation suggested in public. As a matter of fact there are private opinions given which hold that the use of serum is really not necessary. However, if suitable serum is available, until further clinical experience, it would seem best to give it.

There is just one further thought concerning the enthusiastic reports of the curative effects of this drug and that is: may it not be that pneumonia of the past nine months has been caused by relatively benign organisms? Has the severity of pneumonia this winter been less than usual? Will the pneumonia of next year yield as satisfactorily to sulfapyridine therapy as it has this past year? Perhaps it may be that sulfapyridine may not prove as effective in the treatment of pneumonia as is the present day experience.

HOSPITAL STAFF TRANSACTIONS AND CLINICAL MEETINGS

NORTH LOUISIANA SANITARIUM

Shreveport

The regular meeting of the North Louisiana Sanitarium Staff was called to order March 27, 1939 by Dr. George Wolfe, with twenty-two members present. The following committees were appointed:

Medical Committee: Dr. W. R. Mathews, Chairman; Dr. S. N. Nicholas, Dr. Clay Edwards.

Surgical Committee: Dr. J. R. Stamper, Chairman; Dr. C. R. Reed, Dr. J. E. Heard.

Records Committee: Dr. G. H. Cassity, Chairman; Dr. P. D. Abramson, Dr. L. W. Gorton.

Nursing School Committee: Geneva Peters, R. N., Chairman; Dr. A. A. Herold, Dr. C. E. Boyd, Dr. George B. Dickson.

Dr. S. M. Richardson, Jr., reported a case of pneumonia in which sulfapyridine was used. The physical findings and laboratory findings, including x-ray, were typical of lobar pneumonia. Sulfapyridine was administered and, in the course of 24 hours, the temperature had reached normal.

Drs. Webb and Wolfe reported several cases in which sulfapyridine had been used in children with pneumococcic pneumonia, and in which rather spectacular results were obtained. Dr. Wolfe reported such a case where the patient developed hematuria; the drug was discontinued and the hematuria promptly cleared up.

Dr. Youman reported the use of disulon in urinary tract infections with marked efficiency. Dr. Stamper commented on the satisfactory results obtained in the use of this drug.

N. J. Bender, M. D., Sec.

GRADUATE SCHOOL OF MEDICINE LOUISIANA STATE UNIVERSITY MEDICAL CENTER

New Orleans

The scientific meeting of May was called to order by Dr. James T. Nix, Dean of the Graduate School of Medicine. Dr. Bjarne Pearson presented the following paper:

COMPLICATIONS INVOLVING THE URINARY TRACT IN CARCINOMA OF THE CERVIX: AN ANALYSIS OF FIFTY-SEVEN NECROPSIED CASES

In an analysis[1] of 57 cases of carcinoma of the cervix which came to necropsy at the University Hospitals in Minneapolis, complications involving the urinary tract were observed in more than 75 per cent. Such complications, as other recorded studies prove, are of frequent occurrence in this variety of malignancy, and are deserving, in certain respects, of far more attention than they have hitherto received. It might be argued, perhaps, that because the present contribution involves only postmortem findings, the data are not likely to be of value to the living patient with carcinoma of the cervix, but such an argument is not sound. Carcinoma of the cervix is a relentless, progressive disease which may present itself to the physician at any stage. Even a retrospective inquiry, therefore, into the unfolding of the pathologic changes associated with it should be of definite value.

The changes in the urinary tract which occur in carcinoma of the cervix can be conveniently discussed under several special headings, including: Stricture of the ureter, uremia, infections of the urinary apparatus, and carcinomatous invasion of the bladder. The occurrence and pathogenesis of each of these complications will be briefly considered on the basis of their occurrence in the 57 cases comprising this series, and in comparison with the data in other recorded series.

STRICTURE OF THE URETERS IN CARCINOMA OF THE CERVIX

Stricture of the ureters was the most common postmortem finding in the urinary tract in this series as in all other reported series. It occurred in 42 of the 57 cases, 75 per cent. Martin[2] believes that the advent of the stricture initiates the pain of which these patients usually complain, and which may radiate toward the kidneys, laterally toward the hip and groin, and posteriorly to simulate sacro-iliac disease. Because the manner of exitus is dependent upon anatomic changes in the urinary tract following in the wake of the stricture, Graves and his associates[3] examined their patients with opaque pyelography to determine the extent of the ureteral dilation.

The figures for ureteral stricture in other reported series of carcinoma of the cervix parallel or exceed those in my series. Thus Ernst Halzbach,[4] in 48 necropsied cases, found 10 unilateral and 31 bilateral ureteral strictures, with consequent hydro-ureter and hydronephrosis. Herger and Schreiner[5] found strictures in 21 of 32 necropsied cases.

Kundrat[6] laid the foundations of our knowledge of the mode of ureteral involvement in carcinoma of the cervix in his basic work on the spread of carcinoma in the parametria. This work occupied him for three years, and required the use of 21,000 serial sections made from 80 cases. Sampson,[7] continuing these studies, was able to point out that two chief factors were responsible for the ureteral strictures, infection and edema, plus external pressure from the carcinomatous mass about the ureters resulting from parametrial extension. Metastasis occurring directly into the ureter is rare, as Carson[8] has shown. In my material it occurred only three times, and in each instance was located in the midportion of the ureter, where it caused secondary constriction.

The question of whether massive irradiation might not enhance the occurrence of stricture at the ureterovesical junction has been raised by several authors. Before endeavoring to answer it, however, it is necessary to recollect certain anatomic considerations. Three anatomic points of narrowing are present in the normal ureter, these being located at the ureterovesical junction, the ureteropelvic junction, and the midportion. The diameter of the ureter at these points has been measured in large series of necropsied cases by Englisch,[9] Schewkuneko,[10] and Nixon.[11] In Nixon's study of 51 cases, the average diameter of the ureter at the ureterovesical junction was 0.35 cm., at the ureteropelvic junction 0.5 cm., and at the midportion 0.65 cm.

In order to study the effect of irradiation on the ureteral lumen at its narrowest point, Martin and Rogers[12] applied radium in needles alongside the ureters in dogs. They were able to produce complete stricture at the ureterovesical junction in 44 days with an application of 54.3 mg. hrs., and in 16 days with an application of 75 mg. hrs. Further experimental and clinical studies seem indicated to permit definite statements as to the effect of irradiation in the production of ureteral stricture in carcinoma of the cervix.

It was difficult to determine in my material whether irradiation of the parametria might or might not be responsible in some cases, at least in part, for the stricture and hydronephrosis present. One case in the series, however, suggested that this might be the modus operandi: A patient with an early carcinoma of the cervix, which was apparently confined to the cervix and was without parametrial extension, was treated by an application of radium to the cervix followed by extensive deep ray therapy to the parametrial regions. The malignant lesion completely disappeared. One year later she was admitted to the hospital with a high non-protein blood nitrogen, and died shortly thereafter of uremia.

At postmortem examination the cervix was smooth and apparently normal, as was the uterus, and serial sections revealed no evidence of the former lesion. Both parametria were fibrous, and the ureterovesical orifice barely admitted a small filiform catheter. The ureters were enormously dilated, and a high degree of hydronephrosis was present. Sections through the small intramural portions of both ureters showed a narrowed lumen entirely surrounded by fibrous tissue. In retrospect, it would seem that such a finding is entirely comparable to the marked fibrosis which may occur as the effect of radium anywhere else in the body.

Stricture at the ureterovesical orifice gives rise to varying degrees of hydro-ureter and hydronephrosis. In fact, there is a definite though rough parallelism between the degree of dilation and the severity of the supervening uremia. The experimental work of Zuzuki,[13] Keith and Snowden,[14] Rautenberg,[15] Johnson[16] and others has shown that the decrease in renal function, which is always progressive and gradual, is dependent upon the length of time the obstruction has been present. Hinman,[17] in an extensive series of experiments on ureteral obstruction, has shown that complete hydronephrotic atrophy occurs in the rat after 120 days, in the rabbit after 300 days, and in the dog after 18 months.

It is interesting to note that the patients in this series who lived the longest were the ones who died in uremia. Elsewhere[18] I have shown that the average duration of life in the 57 necropsied cases which comprise the series was 57 months, whereas when the fatal outcome was due to uremia and peritonitis, which were the two major causes of death, the duration of life was respectively 29 months and 13 months.

UREMIA AS THE CAUSE OF DEATH IN CARCINOMA OF THE CERVIX

Very little was known of uremia as a cause of death in carcinoma of the cervix until 1854, when Beatty[19] brought the subject before the Dublin Pathological Society with the presentation of three fatal cases. In 1867 Saexinger[20] reported 62 cases of carcinoma of the cervix, in 28 of which marked symptoms of uremia were present antemortem; in all the cases in this group postmortem examination showed ureteral constriction. Saexinger pointed out that constriction of the ureters was brought about by the presence of a carcinomatous mass at the ureterovesical orifice, and, like Beatty, deplored the fact that so common a cause of death should not be mentioned by writers on uterine disease, although many of them must have observed the complication.

Lusk,[21] in the same year as Saexinger, made the first contribution to the subject in the American literature, in a presentation before the New York Medical Society. His discussion of uremia as a cause of death included a description of the underlying pathologic changes.

These changes are now well established, although by no means all cases of carcinoma of the cervix with ureteral stricture terminate fatally because of uremia. In my 57 cases, for instance, ureteral stricture was present in 42 cases, 75 per cent of the series, but in only 19 of these cases, 33 per cent of the whole series, was death due to uremia.

In all 19 cases there was clinical evidence of uremia. In 14 cases there was an increase in the blood metabolites, which were determined one or more times. In the remaining five cases the clinical course and symptoms were such as to preclude the possibility of any other cause of death. It is evident from the accompanying chart that there is a fair parallelism between the degree of blood metabolites and the extent of the hydronephrosis.

In the 19 patients in whom death was due to uremia there were 11 instances of marked bilateral hydronephrosis, five of moderate bilateral hydronephrosis, and one each of slight bilateral hydronephrosis, moderate right hydronephrosis, and moderate left hydronephrosis. In three patients there was no albumin in the urine, and in five others the findings were not recorded; albuminuria was present in the remaining 11 instances. In the six patients in whom the actual output of urine was measured, oliguria was present, which is usually the case, as Offergeld[22] notes, whenever actual measurements are made.

Histologic examination revealed that in the group of cases in which death was due to uremia, 75 per cent of the carcinomata were grade II. The normal distribution, in large series of cases of carcinoma of the cervix, places grade II at 20-25 per cent, and grades III and IV at 75 per cent. In other words, the normal distribution is reversed in the group of cases in which death was due to uremia. There seems no doubt, then, that in the specific case cited above the more slowly growing grade II carcinoma gradually extended into the parametria and slowly compressed the ureters, eventually causing hydronephrosis and uremia.

INFECTION OF THE URINARY TRACT IN CARCINOMA OF THE CERVIX

Although discussion still continues as to the route by which infection reaches the kidneys, it seems most logical to assume, in view of the pathology present in carcinoma of the cervix, that the majority of infections which reach the kidneys are lymphatic-borne. This theory is supported by the studies of Stohr[23] and Kumita,[24] who demonstrated deep and superficial lymphatics in the renal parenchyma, as well as a lymphatic connection between the renal pelvis and the ureters.

Regardless of the mode of ascent, however, certain factors predisposing to infection of the kidneys were present in all the cases of carcinoma of the cervix with urinary complications. These predisposing factors included: Urinary obstruction, invasion of the bladder by the tumor, with the production of fistulae; infection of the bladder; necrosis of the infected cervical tissue; and parametrial infections in patients with low resistance.

Hydronephrosis, with attendant stagnation, was present in 42 of the 57 cases, 75 per cent. In 13 cases, 22 per cent, there was definite infection of the kidney and pelvis. Pyelonephritis occurred in eight cases, chronic cystitis in 10, pyonephrosis in eight, vesicovaginal fistulae and gangrenous cystitis in four each, and edema in three. Two of the patients died as the result of an acute fulminating pyelonephritis.

CARCINOMATOUS INVASION OF THE BLADDER IN CARCINOMA OF THE CERVIX

Carcinomatous invasion into the bladder occurred in nine of my 57 cases, as compared with 10 of Faeber's[25] 150 necropsied cases and 56 of Williams'[26] 75 necropsied cases. Four of my nine cases terminated in vesicovaginal fistulae, as did 26 of

Williams' 56 cases. Blau[27] states it as his opinion that 50 per cent of all necropsied cases of carcinoma of the cervix will show involvement of the bladder, with a 33 per cent incidence of fistulae.

Gemell[28] insists that cystoscopic examination should be a routine part of the examination of patients with carcinoma of the cervix. It is my opinion that this simple procedure will furnish important information in the direction of therapy as well as in prognosis. The earliest changes to be seen in the bladder include bulging of the vesical floor, dilatation of the vessels, the presence of transverse ridges, and bullous edema. The edema soon breaks down, and actual tumor tissue is then apparent in the mucosa.

The appearance of the bladder in cases of carcinomatous invasion of the vesical tissue should be differentiated from its appearance when changes due to irradiation are present. These changes make their appearance two to four weeks after radiotherapy, and are manifested as an intense cystitis with multiple ulcerations. Findlay has made the point that when fistulae develop soon after irradiation, it is highly probable that carcinomatous invasion had occurred before the therapy was applied.

SUMMARY

1. My analysis of 57 cases of carcinoma of the cervix bears out the general opinion that in 75 per cent of such cases strictured ureters are present, with consequent hydronephrosis. The stricture is due to carcinomatous invasion about the ureter at the ureterovesical orifice, at which point the diameter of the lumen is smallest. A possible added factor is the effect of irradiation of the parametria. This factor cannot be properly evaluated at the present time, however, since properly controlled studies are lacking.

2. The first effect of the ureteral stricture is the development of hydronephrosis, with a progressive increase of renal insufficiency, and eventual uremia.

3. The average duration of life in the uremic patients in my series was considerably longer than in the non-uremic patients. This discrepancy can be explained by the rather characteristic tendency of carcinomata of low grade histology (grade II), which were present in 75 per cent of this special group, to evolve slowly and eventuate in uremia.

4. Examination of a composite chart of blood metabolites and pathologic changes reveals a fair parallelism between the degree of hydronephrosis

TABLE I.

SYNOPSIS OF FINDINGS IN 14 PATIENTS WITH CARCINOMA OF THE CERVIX WHO DIED OF UREMIA

Case no.	Interval between findings	Urea nitrogen	Creatinin	Uric acid	Albumin	Duration	Hydronephrosis
2	11 days	26.13 40.13	1.72 2.10		2+	30 days	Marked
5	4 "	51.33 105.47	3.26		0	9 "	Moderate**
11	— 9 " 3 "	70.93 83.6 131.6	6 4.4 6.8	6.9 6.7 9.5	1+	11 "	Marked**
12		56.93	4.75		0	2 "	Marked**
13	— 9 "	124.1 98.5	6.8 5.35	9.1	1+		Moderate**
15	— 7 "	26.13 86.8	1.4 1.6	7.7	2+	7 "	Slight*
21	— 4 "	85.9 109.3			2+	11 "	Marked*
24	—	78	5.7		4+	2 "	Marked
30	—	196.0			0	2 "	Marked NPN 223
27	7 "	265.5			1+	14 "	Marked NPN 170.8**
25			5.7	9	1+	?	Moderate***
34		46.8	3.75				Moderate
46		108.			2+		Marked***
47		101.					Moderate*

** = marked oliguria. *** = anuria. * = vesico-vaginal fistula.

Composite table showing blood metabolites and albumin present in 14 of 19 cases in a series of 57 cases of carcinoma of the cervix in which death was due to uremia. The five cases in which blood metabolites were not noted are omitted. The degree of hydronephrosis, oliguria, and anuria are noted by symbols.

present and the values for the blood metabolites. Oliguria and anuria were common terminal findings in those cases in which the daily output of urine was measured.

5. Twenty-two per cent of 57 patients showed some infection of the urinary tract, and two patients of this group died as the result of a fulminating pyelonephritis. Factors predisposing to the ascent of infection in the urinary tract were present in all these cases.

6. Invasion of the bladder by the carcinoma occurred in nine of the 57 cases, and terminated in vesicovaginal fistulae in four. More attention should be paid to early carcinomatous invasion of the bladder, which should be differentiated from the changes which occur as the result of irradiation.

7. In view of the underlying pathologic changes, a plea is made for more careful genito-urinary investigations in every case of carcinoma of the cervix to aid in determining the extent of the disease.

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HUTCHINSON MEMORIAL CLINIC

New Orleans

Scientific Session conducted by the Division of Psychiatry, Department of Medicine, Dr. T. A. Watters presiding.

On account of the illness of Dr. C. H. Hamann, the first discussion on "How a General Clinic Can Best Use Its Psychiatric Personnel" was not presented.

Some Emotional Disorders in Children (Dr. L. A. Golden): Child psychiatry, as a special branch of medicine, became more closely defined about thirty years ago. Under the auspices of the National Committee for Mental Hygiene, several demonstration clinics were established in various cities, and as their value to the community, school and parents became obvious, their popularity spread throughout the country. The broad interests of the child psychiatry clinic encompassed problems created by social, medical and psychologic maladjustment and its effect on the behavior and mental health of the child.

A wide range of disturbances is encountered in such a clinic. These may include minor or major psychoses, habit spasms, truancy, lying, stealing, appetite disturbances, fears, enuresis, school failure and other disturbances of behavior and personality related to faulty training, emotional maladjustment, or organic disease.

Such children are not distinct from those that are brought to the pediatrician. For that reason, we are especially fortunate that our child psychiatry set-up is integrated into the Pediatrics Clinics. With such mutual cooperation, we can best study the child as he reacts to organic disease and emotional disorder, see the implications of each of these at work in the child as a total person. Needless to say, such a broader realistic approach, viewing the child as a growing personality, understanding his emotional needs as well as his organic needs, allows a more fruitful approach to therapy.

The following case has been selected as an illustration of the many factors which combined may produce the problem for which a child is brought to a pediatric or psychiatric clinic. It is during the process of treatment that the relationship between the problem presented and its component factors becomes evident, for often no connection between these factors is suspected by the parents at the time treatment is begun.

A 12 year old boy was brought to the clinic by his mother because of nervousness and lack of interest in school. The nervousness had increased during the past four years. Temper tantrums had been present from early childhood, and the week before he came to the clinic, he had bumped his head and tried to bite himself in a fit of temper during an argument with his sister. He had developed the habit of whining constantly for everything he wanted, and his mother said that when she bought his sister a pair of new shoes he cried like a baby all the way home because she would not buy him a pair. In school he was inattentive and acted like a child of five or six years. He whined and cried, and refused to play with children his own age. His only playmates were little children five or six years younger than himself. His school record was so poor and consisted of so many grade repetitions, that the question of mental defect had been raised.

Physically, the boy was negative. Past history indicated a normal development and he was found to have no abnormal ideas, phobias, or obsessions. Laboratory findings were negative, and neurologically he was entirely normal. Psychologic testing revealed an alert and interested boy, whose test performance and behavior were in marked contrast to the reports of his school work and his behavior at home. He was friendly, pleasant, and spontaneous, and eager to make a good impression. His test rating proved him to be of good intelligence, and mentally capable of school work in advance of his present grade.

Testing also revealed the presence of a severe reading disability which prevented his succeeding in school work, and which, if not corrected, would prevent further school progress. The results of the psychologic tests ruled out the question of mental defect, and established the presence of reading disability as a factor in the adjustment problem which had not been taken into consideration previously.

Investigation of the home situation brought to life conditions which were found to be positive contributing factors toward the boy's maladjustment. His mother is a dominant, masculine type of woman, with certain morbid trends, and with no interest in domestic affairs. She not only dominated her children but their father also. Her overprotection of the child seemed part of her pattern of aggressiveness in every situation involving the members of her family. She was inconsistent in her discipline, and had never allowed him to do anything for himself. She still gave him help in dressing, discouraged his playing with other children, and taking his own part in quarrels, and tried not only to help him with his lessons, but actually to learn them for him. Both she and her husband seemed to show a preference for their other children, a girl two years the patient's junior. The patient felt very keenly this rejection by his parents, and this showed itself in his frequent quarreling and fighting with his sister who was held up to him as a model. The basis of his mother's rejection seemed to be the patient's likeness to his father, a likeness which was essentially his lack of aggressiveness and his inability to compete with others on an equal footing—in contrast to her own great need to dominate a situation. The fact that he had no playmates of his own age was in reality a source of great concern to him, and had aroused feelings of inferiority. He was branded as a "sissy" by his schoolmates, who had given him such names as "Sally Ann" and "Touch-Me-Not." Neither the pupils nor the teacher realized that his inability to be a good mixer resulted from the fact that he did not know how to play with children.

Treatment has been carried on at regular intervals from the time of his entrance to the Clinic in June, 1937, up to the present time. The plans and procedures for treatment grouped themselves under four main headings. The first of these consisted of direct and intensive work with the boy by the psychiatrist. Frank discussion was held with him of his infantile reactions and the need for conducting himself like a big boy rather than a baby. He showed from the first a real desire to improve and to be like other boys. He gradually developed a feeling of security in his relationship with the psychiatrist, whom he regarded as some one to whom he could turn for advice, approval, and understanding. He was encouraged to feel that any success in overcoming his infantile habits and his unacceptable behavior at home and in school was a triumph.

St. Mark's Community Center provided the much needed opportunity for group activity. Here he began to wrestle, and participate in other athletic events which were new experiences for him. After some months of attendance at St. Mark's Community Center, he won the wrestling championship, and this success was further proof of his developing manliness and self-confidence. In regard to this event, the child told the psychiatrist proudly, "I took some awful punishment for about eight minutes and didn't even cry."

Psychiatric treatment of children is of little value without the cooperation of the parents, and their complete acceptance of the treatment program. This case was no exception to the general rule, and much time and effort were expended in securing the mother's active participation in our plans. The father was also a part of the treatment program, as it was felt that the child needed the strength and security of a close father-son relationship. The father's response to the psychiatrist's suggestions was shown by his change of attitude toward the boy, a new interest in the child's activities, and the little attentions which, coming from a father, help a boy of this age to gain the recognition he so greatly craves.

An effort was made to interpret to the mother, over a period of months, the necessity for helping the child to achieve independence in regard to dressing himself and preparing his own lessons, and in assuming responsibility for himself and for his actions. It was difficult for her to relinquish her place as the dominant factor in the child's life, and, consequently, she continued to dominate him, in spite of an expressed willingness to cooperate in our plans. This was shown by her continuing to prepare his lessons for him and by her marked unwillingness to recognize any improvement made in his behavior. In spite of this fact, his improvement was obvious to the clinic, and to his teachers in school.

Since school progress depended on his ability to read, remedial reading instruction, as part of the therapeutic program, was begun soon after his first visit to the clinic, and has been continued up to the present time. This instruction not only improved his reading, but taught him to think for himself, increased his self-confidence, and improved his effort. Because of the remedial reading instruction, he was enabled to keep up with his class for the first time. His improved reading ability made him more a part of the classroom group, and his attitude toward both teacher and classmates showed a favorable change. A recent report from his teacher states that she finds the child much improved in his ability to get along with other children. He is accepted by them and now plays with a group his own age, whereas he formerly played with only one or two of the younger children. She finds that he is much more spontaneous, and that he now relates what he learns in reading to outside activities. He frequently brings to school souvenirs that his father has sent him from his sea trips. He enjoys out of school activities with boys his own age.

At the present time, most of the symptoms for which the child first came to the Clinic have entirely disappeared. There is only an occasional tendency to cry when disappointed and he no longer whines. The mother has at last discontinued helping him with his lessons and allows him more freedom and independence of action. Through her contacts with the clinic she has gained some insight into the relationship between the child's former behavior and her treatment of him at that time. The father-son relationship is apparently satisfactory. Because of the child's greater security at home and at school, the friction between him and his little sister has ceased, for he no longer feels that any affection shown her by his parents is a threat to his own relationship with them. He is beginning to feel that he can compete with other boys his age, both in the school room and on the playground. He has acquired some poise, and seems alert and interested in all that goes on around him.

This type of case is frequently seen in a Pediatrics or Child Psychiatry Clinic. Many of the contributing factors are not recognized in the beginning and become evident as treatment progresses. This problem can be summarized as that of failure in school work, on the basis of reading difficulty, and persistence of immature behavior, with whining, temper tantrums, and other behavior disorders, in a setting of prolonged maternal oversolicitude and faulty training.

Emotional Factors in Gastro-enterologic Disorders (Dr. Sebron Dale): In attempting to speak on this subject, I have nothing original to present, merely a repetition of what has been said numerous times before. However, I am convinced that the failure fully to appreciate and to heed the teaching relative to this subject has resulted in many chronic invalids. Many dollars have been spent for medical care and many healthy organs have been relegated to the incinerator either because we have been ignorant or indifferent. Therefore, even feeble efforts might be justifiable.

We are aware of the physical and chemical factors of disease and spend much time in physical and chemical examinations. We accept as normal, emotional reactions such as weeping when sad. We know that excitement or anger will cause the heart to beat more rapidly, blood pressure to rise, blood sugar to rise. This effect has been shown to be due to increased adrenalin as the result of sympathetic stimulation. It has been shown recently by H. H. Dale and Bunting that stimulation of the vagus causes liberation of acetylcholine. It follows then that emotional disturbances express themselves in effects on the viscera which are innervated by the autonomic nervous system, especially the sympathetic division of that system. Naturally, then one would expect such disturbances to interfere with digestion during this period of overstimulation. This being true, one has only to conceive of a chronic state of such over-stimulation to understand some of the chronic cases of bowel distress.

The relative evaluation of the psychic and somatic components of a patient is of greatest importance in diagnosis and treatment. Many times we find the two associated, with the psychologic factor in the etiology predominating over the physical and chemical factors.

It is perfectly natural, and rightly so, that we should hesitate to diagnose as an emotional factor what might well represent the earliest manifestation of some serious organic disease. To make such a diagnosis is often an admission of defeat and is particularly alarming when we find that someone else has cured our case by removing their gall stones, or discovered a lung lesion. This concern for the patient's welfare has not been the only factor which has contributed to mistaken diagnoses. The emphasis which has been placed upon organic pathology in teaching has led the average physician to belittle the influence of emotional factors in the production of physical symptoms. This lack of understanding on the part of the general profession has been responsible for an army of psychoneurotics being labeled as cases of organic disease and being constantly mistreated for a nonexistent physical disorder. This does nothing other than to lead more and more to the maladjustment of the patient. An occasional mistake would be made regardless of how good and how careful we were. This usually does no permanent harm to the person with a normal mental background, but to the psychoneurotic or psychotic it will only result in the precipitation or the perpetuation of a disastrous mental condition. Contrary to the opinions of many, any form of substitution therapy is seldom a successful method of psychotherapy, resulting only in relief for a short time or in the transference of the complaint from one system to another.

The psychoneurotic is constantly looking for a prop and very often it is the physician whom he uses. Some psychoanalysts think they often unconsciously seek self punitive measures in the form of surgery because of an unconscious sense of guilt. Karl Menninger in his book "Man Against Himself" speaks of this as polysurgery. Alvarez related an interesting example of a constitutionally inadequate girl who came to him. The diagnosis of her case was obvious, and because he felt sorry for the fine young husband, a mechanic, he purposely avoided a detailed and expensive laboratory workup. The patient was dissatisfied with her treatment and went to another doctor. He was quite chagrined to receive later an uncomplimentary letter from her telling him that she had gone to a good doctor who put her through a score of tests and found that she was in a bad way with a low basal metabolic rate of −14, a beginning diabetes with a blood sugar of 120 mg., a dangerously low blood pressure of 100 mm., a badly dropped colon and a terribly diseased appendix which retained barium for twenty-four hours. She wanted to know how any institution could keep on its staff a man so careless and ignorant. Such measures might not be open to such criticism if they might support her hypochondriasis long enough to permit her eventually to be talked out of her trouble. Such a procedure, however, usually serves only as the prop which these patients are constantly seeking.

The treatment of such conditions would require a volume or even volumes which time does not permit to present. A few common sense principles will, however, be of much value: (1) Gain the confidence of the patient, that is, establish rapport; (2) consider the patient as having a mind and a body as integrated entities instead of a mind and a body as separate entities; (3) realize the influence of the mind in the control of body physiology and even pathology. Realize that there is a mind whose content is concealed and not within the horizon of the everyday conscious scrutiny of patient or physician, and that this unconscious part of the patient plays an important part in the health of the individual. (4) Give proper consideration to the organic factors but give due consideration to the symptoms present which cannot be explained on a purely organic basis. Consider the part that the emotional life can play in the production of such symptoms and attempt to examine the mind as well as the body. (5) Lastly but not leastly, do not attempt to treat the psyche through the soma. Remember that the place for healthy organs is in the body and not in the incinerator.

The Genesis of a Paranoic Reaction, with Case Presentation (Dr. J. W. Bick): Although psychiatry has made considerable advances, the concept of paranoia remains the same. Paranoia is defined by most psychiatrists along lines set forth by Kraeplin late in the last century. We think of it as a fixed type of personality reaction, apparently due for the most part to faulty environmental adjustment and characterized by the preservation of clear and orderly thinking in the presence of a systematized and unshakeable group of delusions. While delusions of persecution, to which we apply the term paranoid, are quite frequent in psychiatric work, it is quite rare that we find this condition existing in the presence of an otherwise clear mental state. It is because of this rarity that I think we are justified in exhibiting this patient. Many physicians admit that they have never seen a clear case of paranoia. Strecker says that the disorder has been diagnosed in but three of five thousand cases in the Philadelphia General Hospital. It is likewise quite rare in the average State Hospital of the United States, being diagnosed in only about 1.9 per cent of cases.

The exact cause or etiology of paranoia is not known. In so far as the anatomic and biochemical findings are concerned, they are entirely within normal limits. We are forced in all cases to fall back upon a personality difficulty or environmental problems for the whole answer. In looking into the history of the patient we are showing tonight, several things are outstanding. This woman is endowed with what we like to think of as a paranoiac constitution, that is, there is a marked tendency towards suspicion, a readiness to see biased meaning, asocial conduct and a tendency to project all personal problems and inadequacies onto the environment, which projections take the form of the delusions we shall see in a few moments. Although outwardly clear, careful study will often reveal a tendency toward rigid thought

—a tendency "to bend the facts" rather than "to bend to the facts." Meyer recognizes several distinct steps in the evolution of such a psychosis, which may be enumerated to advantage, for example: (1) An uneasy, brooding, sensitive type, with an inability to correct ideas and to make concessions; (2) appearance of suspicions and ill-balanced notions; (3) false interpretations, with self-reference, and a tendency to systematization of these erroneous ideas; (4) retrospective falsification; (5) megalomaniac developments.

With these orienting points in mind, we may proceed to a discussion of the findings in this particular case and try to interpret some of the "warped" and persistent beliefs which obsess this patient's thought.

She is a 53-year-old white lady who has been attending the Clinic for about two years, having been referred to us by the Eye, Ear, Nose and Throat Hospital with a complaint of being constantly worried because her husband would desert her and not return. Her husband had been having drinking spells ever since their marriage in 1920, during which he often absented himself during week-ends much to her shame and chagrin. "When he's not drinking, he spends all his time with the Masons. They alone have any control over him. They alone can make him do right. He's a Thirty-Third Degree, you know."

As we shall see later, this is quite an important admission because this patient's inadequacy in handling a difficult marital set-up is being at once transferred to the Masonic group, a group which later shall acquire every bit of her ill will.

The patient was born in Philadelphia, apparently from a one-time well-to-do family. Birth and early physical development were apparently normal. Childhood diseases included measles, mumps and typhoid fever, all of which left no apparent sequelae. She has an excellent school record, completing high school and later attended a school of "Art and Design." She admits of no antisocial traits but states that she "always wanted to rebel over what they wanted her to do." Perhaps this is her first indication of her failure at adjustment which later was destined to bring her such untold grief.

Sex adjustment has been poor. She reacted to menstruation, at the age of 16 years, with a nervous breakdown which caused her to remain in bed for three weeks. She was "terrified at the whole affair." She married at nineteen; husband disappeared in the War (1917); married present husband in 1920. She has always wanted children but has been sterile both marriages. She has always been frigid and held sex to some degree of abhorrence. Her religious adjustment is queer, and she claims to be a "Catholic Quakeress." Her husband described her personality by saying that she "has always been too religious, suspicious, fussy, accuses me of everything, and is hard to get along with."

On routine mental examination when first admitted to the Clinic, no significant findings were noted other than a remarkably voluble stream of talk, an apprehensive mood with suspicions toward the Masons and an absence of frank delusions and hallucinations. Most of it has developed in the last two years. She was somewhat suspicious of her husband but there was nothing of a frank delusion. A series of happenings occurred which changed the situation within the last year.

Physical and neurologic examinations were negative, except for a small lesion on the labia majora which the Department of Gynecology says "has the appearance of a small knife-cut."

The patient's financial condition was becoming desperate and she sought aid from her husband's Masonic brother, also from the New York Life Insurance Company, although this was denied. On June 4, 1937, her husband died at Charity Hospital following a cerebral thrombosis. It is here that her attitude toward the Masons begins to crystallize, and it is here that all of her trouble is projected upon the shoulders of those of whom only a short while before she had expressed profound jealousy. Let us look at her scheme of thinking from the time of her husband's death until the present time. (1) "Had a mild stroke—later was recovering; developed headache; the Masons struck him there and speeded off." (2) In the hospital—"Masons had intern transferred; new intern stopped infusions—went steadily downward." (3) "Couldn't wait for him to die. An Eastern Star nurse gave him a hypo; he twisted and breathed his last." "Why all this? To get his Thirty-Third Degree, of course."

One month after her husband's death she reported to the Clinic with her ideas of persecution directed largely to the Mason who inherited the Thirty-Third Degree, and states: "They sprayed my house with lime. It's gotten into my bladder. I'm going blind (eyes are negative). House sprayed with secret Masonic poison." Later she stated, "They are after my character; I've played the game clean; the H. O. L. C. (Masons) want my house for bawdy purposes. Some of them are prominent but one's a crook, another a bootlegger, another a dope addict." She later was back in the Clinic with more stories of a Mr. "X" doing harm to her. "He took my arm to help me across the street, but he will never get me to be his mistress." Afterwards she returned with a complaint that she was going blind, and that she had a pain in bladder and kidneys. All were negative. She stated, "All this pain is due to the fact that the Masons sprayed my house with that lime and it is being absorbed." She was sent to the dentist, and she was suspicious because "the nurse was an Eastern Star member and the dentist a Mason." She states that she "was given too much novocain—numb all over; anesthesia and analgesia persist."

Another event that took place was a street car accident when "a motorman slammed the doors together too quickly; was sent to Charity Hospital overnight but no treatment was given—too many Masons." She knew "the Masons were closing in" on her at every outlet.

She later came to the Clinic stating that she wanted to get spinal manipulations. I explained that we would not go into this. A doctor saw her at the time, and patted her on the shoulder; she wanted to see me; she had a secret to tell me. The secret was that "this doctor had better be looked into." She had the suspicion that he was a Mason also. Another rather interesting megalomaniac idea is that the "Fight is not between Masons and Mrs. M. but between Free Masonry and Catholicism. Masons have ruined everything else; now it's my character."

(The patient was shown here).

In conclusion, you have noted the suspicion, fixed notions and retrospective falsification. The prognosis is quite poor and the dangers in handling such a patient at once become obvious.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR

June 1.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
June 5.	Board of Directors, Orleans Parish Medical Society, 8 p. m. Clinico-pathologic Conference, Hotel Dieu, 8:15 p. m.
June 6.	Eye, Ear, Nose and Throat Hospital Staff, 8 p. m.
June 7.	Radio Talk, Orleans Parish Medical Society, 8:15 to 8:30 a. m., WDSU. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m. Hutchinson Memorial Clinic Staff, 8 p. m. Mercy Hospital Staff, 8 p. m.
June 8.	Clinico-pathologic Conference, Touro Infirmary, 8 p. m.
June 12.	Orleans Parish Medical Society, 8 p. m.
June 13.	Eye, Ear, Nose and Throat Club, 8 p. m.
June 14.	Radio Talk, Orleans Parish Medical Society, 8:15 to 8:30 a. m., WDSU. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m. Touro Infirmary Staff, 8 p. m.
June 16.	I. C. R. R. Hospital Staff, 12 noon. New Orleans Dispensary for Women and Children Staff, 8 p. m.
June 19.	Hotel Dieu Staff, 8 p. m.
June 20.	Charity Hospital Medical Staff, 8 p. m.
June 21.	Radio Talk, Orleans Parish Medical Society, 8:15 to 8:30 a. m., WDSU. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m. Charity Hospital Surgical Staff, 8 p. m.
June 22.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
June 26.	Joint Clinical Meeting, Orleans Parish Medical Society and the United States Marine Hospital at the Marine Hospital, 8 p. m.
June 27.	Baptist Hospital Staff, 8 p. m.
June 28.	Radio Talk, Orleans Parish Medical Society, 8:15 to 8:30 a. m., WDSU. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
June 29.	Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.

During the month of May, the Society held its regular scientific meeting on May 8, and a special scientific meeting on May 22. At the meeting of May 8, the following program was presented:

The Treatment of Diabetes Mellitus.
By..Dr. Manuel Gardberg
Discussed by Drs. Chaillé Jamison, Allan Eustis, Alfred Jacoby and closed by Dr. Gardberg.

Acute Spinal Epidural Abscess with Report of Four Cases.
By....................................Dr. J. O. Weilbaecher, Jr.
Discussed by Dr. Dean Echols and closed by Dr. Weilbaecher.

The Mortality of Thyroid Disease in a Non-endemic Area: An Analysis of 102 Consecutive Deaths, with a Special Note on the Liver Factor.
By......................................Dr. Frederick F. Boyce
Discussed by Dr. Allan Eustis.

The special scientific meeting of May 22 was held jointly with the Tuberculosis and Public Health Association of Louisiana. Dr. Sydney Jacobs, Chairman of the State Early Diagnosis Campaign, had charge of the following program:

Tuberculin Testing in Public Schools.
By..Dr. Julius L. Wilson

The X-ray in the Early Diagnosis of Pulmonary Tuberculosis.
By..Dr. Leon J. Menville

Clinical Value of the Early Diagnosis of Pulmonary Tuberculosis.
By ....Dr. Edgar Hull

Dr. Frank Weitz was elected to Active Membership in the Society and Dr. J. Hardee Bethea to Intern Membership.

At the meeting in April of the Louisiana Gynecological and Obstetrical Society, Dr. Henry B. Alsobrook was elected president; Dr. Philips J. Carter, vice-president; and Dr. Earl C. Smith, secretary-treasurer.

The following New Orleans doctors were elected officers of the Louisiana State Pediatric Society: Dr. Philip C. DeVerges, president, and Dr. William C. Rivenbark, secretary-treasurer.

Dr. Ambrose H. Storck sailed April 27 with members of the Surgeons Club on a tour of the clinics of England, Scotland and Scandinavia, and will visit various cities on the continent before returning in two months.

Dr. George W. McCoy represented the United States Public Health Service at the meeting of the National Foundation for Infantile Paralysis, Incorporated, in New York, April 18, and at the meeting of the National Board of Medical Examiners in Washington, April 23. Dr. McCoy also attended the meeting of the American Epidemiological Society in New York, April 28.

The following members attended the meeting of the Federation of American Societies for Experimental Biology in Toronto, April 26-29: Drs. Clyde Brooks and Albert E. Casey.

Dr. H. L. Kearney attended the annual meeting at Alexandria, April 21-22, of the Louisiana Academy of Sciences of which he is president.

Those attending the meeting of the Association of American Physicians, May 2-3, in Atlantic City were: Drs. C. C. Bass, Joseph S. D'Antoni, Grace Goldsmith, William H. Gillentine, John H. Musser, George W. McCoy, and Roy H. Turner.

Dr. Lewis A. Golden presented a paper before a conference on childhood problems in which various social agencies and educational groups participated, April 29.

Dr. Guy A. Caldwell was a guest speaker before the Mississippi State Pediatric Society on May 8.

Dr. Howard R. Mahorner spoke before the American Association for the Study of Goiter, in Cincinnati, May 22-24, and before the Mississippi State Pediatric Society on May 8.

At the recent annual meeting of the Eye, Ear, Nose and Throat Hospital, Dr. Francis E. LeJeune was named surgeon in charge of the ear, nose and throat department; Dr. W. R. Buffington, surgeon in charge of the eye department, and Dr. William B. Clark, assistant surgeon in the eye department.

Dr. Edward H. Cary, Chairman of the Committee on Legal Medicine and Legislation of the American Medical Association, spoke before the National League of Nursing in New Orleans, and also had a conference with the officers of the local and state medical societies.

The following officers were elected April 11 at a membership meeting of the New Orleans Graduate Medical Assembly: Dr. Emmett L. Irwin, president; Dr. Edgar Burns, first vice-president; Dr. Walter E. Levy, second vice-president; Dr. H. Vernon Sims, third vice-president; Dr. Francis E. LeJeune, treasurer; Dr. M. M. Hattaway, secretary, and Dr. H. Theodore Simon, director of clinics. The Executive Committee includes: Drs. Oscar W. Bethea, Ansel M. Caine, Joseph S. D'Antoni, James K. Howles and John H. Musser.

Dr. George F. Roeling has been appointed visiting specialist in neuro-psychiatry for the United States Marine Hospital in Carville, Louisiana.

Dr. Emmett L. Irwin has been named head of the Health and Safety Committee of the New Orleans Area Council, Boy Scouts of America. This committee will plan a program for the education of scouts in safety skill and health practices, and the rendering of service in time of emergency and disaster.

Dr. Béla Halpert has been elected to active membership in the New Orleans Academy of Sciences.

Dr. Albert E. Casey has been elected to membership in the American Association of Anatomists.

The qualifying round of the Orleans Parish Medical Society's golf tournament was held at Colonial Country Club May 1-7. Dr. Dyer J. Farley was medalist with a score of 83 and Dr. William C. Rivenbark was runner-up with 85. Dr. Charles B. Odom was low net with a score of 65 and Dr. Chester Fresh runner-up with 66. About thirty members played in the qualifying round. It is hoped that next year more will enter.

The following is a list of the low 16 who qualified and the pairings for the first round of match play with ¾ difference in handicap. Dr. Charles B. Odom vs. Dr. Francis E. LeJeune; Dr. Howard R. Mahorner vs. Dr. Louis Ochs; Dr. Lawrence R. DeBuys vs. Dr. Herman Weinberg; Dr. Charles A. Bahn vs. Dr. Robert F. Sharp; Dr. Chester Fresh vs. Dr. Roy E. de la Houssaye; Dr. William C. Rivenbark vs. Dr. Edmund L. Faust; Dr. Lucien A. Fortier vs. Dr. Dyer J. Farley; Dr. Ralph J. Christman vs. Dr. Herbert Meyer.

A silver trophy will be awarded the winner of the tournament through the courtesy of Mead Johnson & Company. A pair of sport glasses will be given to the runner-up.

Dr. H. Theodore Simon has been named senior orthopedic consultant and Dr. Guy A. Caldwell associate orthopedic consultant at the clinic for crippled children at Touro Infirmary.

Dr. Marion Souchon was awarded the first prize in the Louisiana Art Commission's First Annual Exhibition which opened May 9 at the Capitol Art Galleries in Baton Rouge. Dr. Souchon recently won an exhibition prize from the New Orleans Art Association.

Dr. Robert W. Cooper has left for New York where he has a special fellowship in radiation therapy at the Memorial Hospital.

The following members were on the program of the joint meeting of the Louisiana Gastroenterological Association and the Marine Hospital: Drs. Donovan C. Browne, Isidore Cohn, George F. Fasting, Waldemar R. Metz, John H. Musser, Alton Ochsner, and James M. Perret.

Dr. Francis E. LeJeune, President of the Louisiana-Mississippi Otolaryngological Society, presented a paper at the annual meeting, May 8, at Gulfport. That same day he flew to Chicago to a council meeting of the American Laryngological, Rhinological and Otological Association of which he is Vice-President.

Dr. Alton Ochsner spoke before the Mississippi State Medical Society meeting at Gulfport, May 9, and later attended the meeting of the American Surgical Association in Hot Springs, Virginia, May 11-13.

Drs. C. C. Bass, Michael E. DeBakey and Grace Goldsmith took part in the program of the Society of Experimental Biology and Medicine, May 12.

The following members of the Society attended the meeting of the American Medical Association in St. Louis, May 15-19: Drs. Charles A. Bahn, Charles C. Bass, Elizabeth Bass, George C. Battalora, Merrill C. Beck, Hardee Bethea, Oscar W. Bethea, Frank Brostrom, Wiley R. Buffington, Guy A. Caldwell, Michael E. DeBakey, Lawrence R. DeBuys, Theodore J. Dimitry, D. Julian Graubarth, George H. Hauser, James K. Howles, Sydney Jacobs, Robert A. Katz, Edward L. King, Wilkes A. Knolle, Abraham L. Levin, Urban Maes, Levin W. Magruder, John H. Musser, Alton Ochsner, Charles B. Odom, John T. O'Ferrall, Joseph A. O'Hara, Walter J. Otis, James D. Rives, Isidore L. Robbins, Warren L. Rosen, Thomas B. Sellers, H. Theodore Simon, Earl C. Smith, Edwin A. Socola, Robert A. Strong, Martin T. Van Studdiford, and Willard R. Wirth.

Attending the meeting of the American Association of Clinical Pathology in St. Louis, May 12-14, were Drs. George H. Hauser, Edwin H. Lawson, Emma S. Moss, and John R. Schenken.

Drs. Maxwell E. Lapham and Wilbur C. Smith attended Tulane alumni meetings in Little Rock, Hot Springs and Fort Smith, Arkansas.

Dr. J. M. Batchelor addressed the Louisiana Federation of Women's Clubs, May 14, on the work of the public health department.

Dr. Charles F. Gelbke was the speaker at the first public Mother's Day ceremonies held in Algiers, May 14.

Dr. Charles Odom attended the Forum of Anesthesia, held in connection with the A. M. A. meeting in St. Louis.

TREASURER'S REPORT

Actual Book Balance 3/31/39	$5,089.69
April credits	$ 813.89
Total credits	$5,903.58
April expenditures	$ 950.94
Actual book balance 4/29/39	$4,952.64

LIBRARIAN'S REPORT

The Library has loaned to physicians during April, 1,027 books and periodicals, or approximately two to each member of the Society. In addition 1,177 volumes have been loaned to students for overnight use, giving a total of 2,204 for the month.

During April 137 volumes have been added to the Library. Of these 32 were received by binding, 94 by gift, 10 from the New Orleans Medical and Surgical Journal and one by purchase.

Members of the staff have collected material on the following subjects during the month:

Typhoid carriers
Tuberculosis of the tongue
Migraine
Mental responsibility for suicide
Infection of the salivary glands
Osteomyelitis of the pelvic bones
Basal metabolism in pregnancy
Anaphylaxis and histamine
Hypospadias
Hyperglycemia without glycosuria

This notation does not include the great number of reference questions which are answered at once by consultation of a reference book or by the use of the card catalog.

NEW BOOKS

First International Congress on Mental Hygiene: Proceedings, 1932.

American Laryngological, Rhinological and Otological Society: Transactions, 1938.

American Neurological Associations: Transactions, 1938.

American Urological Association: Western Branch Transactions, 1938.

American Pediatrics Society: Transactions, 1938.

U. S. Public Health Service: Annual Report of the Surgeon-General, 1938.

Rockefeller Foundation: Review, 1938.

U. S. Army: Annual Report of the Surgeon-General, 1938.

U. S. Navy: Annual Report of the Surgeon-General, 1937.

U. S. Census Bureau: Mortality Statistics, 1936.

U. S. Census Bureau: Births, Stillbirths and Infant Mortality Statistics, 1936.

International Congress on Radiology: Portrait Catalogue, 1937.

Genner, V.: By-effects of Salvarsan Therapy and Their Prevention, 1936.

California Medical Association: Cancer Committee Studies, 1936.

Pryll, Walter: Economical Administration of Health Insurance Benefits, 1938.

Whitby, L. E. H.: Disorders of the Blood, 1937.

Williamson, N. B.: Handbook of Diseases of Children, 1936.

Kenny, Elizabeth: Infantile Paralysis and Cerebral Diplegia, 1936.

Meakins, J. C.: Practice of Medicine, 1938.

Barborka, J. W.: Treatment by Diet, 1937.

Norris, G. W.: Diseases of the Chest, 1938.

Gregory, Jennie: A. B. C. of the Vitamins, 1938.

Cowan, Alfred: Refraction of the Eye, 1938.

Brown, G. van I: Surgery of Oral and Facial Diseases, 1938.

Association for Research in Nervous and Mental Diseases: Pituitary Gland, 1938.

Reese, H. H., et al: Yearbook of Neurology, Psychiatry and Endocrinology, 1934-36.

Ranson, S. W.: Anatomy of the Nervous System, 1931.

Achiller, Paul: Brain and Personality, 1931.

Chadwick, F. A.: Foundations of Abnormal Psychology, 1932.

Gilbert C. Anderson, M. D.
Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Wednesday of every month	Baton Rouge.
East and West Feliciana	First Wednesday in June	Jackson.
Morehouse	Second Tuesday of every month	Bastrop.
Orleans	Second Monday of every month	New Orleans.
Ouachita	First Thursday of every month	Monroe.
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	

REPORT OF THE HOUSE OF DELEGATES TO THE GENERAL ASSEMBLY

The House of Delegates held two meetings during the 1939 session of the State Society in Alexandria, one on April 24 and one on April 26. The first meeting was called to order by the President, Dr. Joseph A. O'Hara, who immediately turned the meeting over to the Chairman of the House, Dr. King Rand.

The Committee on the President's Report recommended that the report of the President, which contained the following recommendations be approved, which was so ordered.

"1. Members take full advantage of the official Journal which is not only the medium of disseminating medical and scientific knowledge and information pertaining to the activities of the State Medical Society, but also discusses problems which affect the entire membership. The Journal brings to the door of every individual doctor matters about which he might not otherwise know and about which he cannot afford to remain uninformed. The addition of a staff of corresponding editors in the various parishes has proved very effective.

"2. Each Councilor become a committee of one to make a survey of the physician-power of his respective district and continue to try to organize or reorganize medical societies therein.

"3. Refresher courses in pediatrics, or other subjects, be continued and extended where practicable.

"4. All encouragement be given to the Woman's Auxiliary and that this organization be drafted into service when needed."

The Committee on the Report of the Secretary-Treasurer recommended that this report be received, which was so ordered.

The report of the Council and the reports of the various Councilors were accepted.

Reports of the following committees were accepted: Health and Public Instruction; Journal; Medical Defense; Medical Education; Advisory Committee to Woman's Auxiliary; Care of the Indigent Physician; Medical Economics; Mental Health; To Prepare History of the Louisiana State Medical Society; Expert Testimony.

The following action was taken on other reports: Committee on Cancer—Recommendations, as follows, were approved:

"1. To reaffirm the activities of the Cancer Committee.

"2. To appropriate one hundred dollars ($100.00) for expenses for the year 1939.

"3. That the Secretary-Treasurer write a letter to the newspapers in Alexandria, Bossier City, Lake Charles, Monroe, New Orleans and Shreveport which have published articles on cancer control and to the radio stations in Alexandria, Lake Charles, Monroe, Baton Rouge and New Orleans which have given time for radio talks on cancer, thanking them for their cooperation. It is also recommended that a letter of thanks be sent by the Secretary-Treasurer to Dr. J. A. O'Hara, President of the Louisiana State Board of Health, for the donation of space in the Journal for the publication of monthly articles on the subject of cancer."

Committee on Hospitals: Supplemental report, containing resolution concerning prevention of abuse in connection with admission of patients to the Charity Hospital in New Orleans and the original report of the committee, were adopted. The Committee was empowered to proceed and formulate proper rules for the admission of patients as requested in the resolution submitted.

Committee on Maternal Welfare: The following recommendation was approved:

"That the work of the Maternal Welfare Committee be continued and that such a committee be appointed by the incoming President for 1939-1940."

Committee on Public Policy and Legislation: The Chairman recommended that, when the funds of the State Society are in such a condition as to justify it, a representative of our organization be maintained in Washington in the interest of medical legislation, especially during the legislative session in Washington, which recommendation was approved. The Committee was also empowered to employ some attorney or anyone they may see fit, to scrutinize and read each and every bill as introduced at the State Legislature and report to the Committee any reference to the practice of medicine in the state.

Committee to Study Ways and Means of Establishing a Library Service: The report of this Committee was accepted; however, the Secretary-Treasurer advised that, at the last meeting of the Executive Committee, motion was made and carried that this subject be tabled.

Committee on Walter Reed Memorial: Motion was made and carried that this report be referred to the Committee appointed by the Executive Committee, for consideration with the Committee on Walter Reed Memorial and that a report be made back to the Executive Committee for final action.

The report of the Louisiana State Board of Medical Examiners was accepted and the names of Dr. Roy B. Harrison and Dr. W. D. Phillips were approved for submission to the Governor for appointment at the expiration of the present term of Dr. Harrison's appointment.

Dr. A. E. Greer of Houston was in attendance at the meeting as Fraternal Delegate from the Texas State Medical Association.

A communication from Dr. William C. Woodward of the American Medical Association in regard to appropriation for the construction of a new building for the Army Medical Library and Museum was presented and accepted.

A letter from Dr. P. W. Trowbridge, a dentist, requesting that the State Society approve endorsement of the Girl and Boy Scouts' Manual for display in doctors' waiting rooms and that the members be requested to have these manuals in their offices was presented. Motion was made and carried that the Councilors review these manuals and, if there is not found anything objectionable in same, they could recommend to the Executive Committee that the members be asked to use these in their waiting rooms.

Request was received from the doctors of Plaquemines Parish for a Charter and it was the opinion of the House that this Charter should be granted after the members have complied fully with the laws of the State Society.

The recommendation of the Budget and Finance Committee that the By-laws be amended so that fifty cents per capita paid each year to the entertainment fund and to the medical defense fund should not apply to dues collected from intern members was approved.

A resolution concerning compensation cases, with special reference to patients choosing their own physician, was presented and referred to the Legislative Committee.

Motion was made and carried that expenses of delegates to the American Medical Association for attending meetings of the House of Delegates of the American Medical Association should be defrayed by the Society, if the Budget and Finance Committee can find the funds.

A recommendation that the abstracted minutes of the meeting of the House of Delegates and the meetings of the Executive Committee be published with the printed reports of officers and committees, before the annual meetings, was approved.

A telegram from Dr. West, Secretary of the American Medical Association was read, wherein it was requested that the House of Delegates of the State Society use their influence in having the time of the committee hearing of the Wagner Bill deferred. Action had been taken, it was stated, in this matter by communicating with Senator Allen J. Ellender and the Senator had complied with the request.

The amendments to the Charter and Constitution providing that the Vice-Chairman of the House of Delegates should be a member of the Executive Committee were approved by ballot taken by the members registered.

The report of the Committee on Resolutions, expressing thanks to various individuals and organizations for cooperation and interest in the meeting, was approved.

The following officers and committees were nominated and duly elected:

President-elect: Dr. C. Grenes Cole, New Orleans.

First Vice-President: Dr. D. B. Barber, Alexandria.

Second Vice-President: Dr. E. L. Zander, New Orleans.

Third Vice-President: Dr. J. P. Mauboules, Rayne.

COUNCILORS

Third District: Dr. C. C. deGravelles, New Iberia.

Sixth District: Dr. Rhett McMahon, Baton Rouge.

Seventh District: Dr. Claude A. Martin, Welsh.

Eighth District: Dr. W. F. Couvillion, Marksville.

COMMITTEES

Scientific Work: Dr. P. T. Talbot, Secretary-Treasurer; Dr. A. E. Fossier and Dr. F. E. LeJeune.

Public Policy and Legislation: Dr. C. A. Lorio, President; Dr. P. T. Talbot, Secretary; Dr. C. Grenes Cole, Chairman; Dr. H. B. Alsobrook and Dr. Rhett McMahon.

Journal: Dr. J. A. Lanford, three year term; Dr. H. W. Kostmayer, two year term (unexpired term of Dr. Seemann).

Medical Defense: Dr. J. C. Willis, Sr., three year term.

Health and Public Instruction: Dr. F. R. Gomila, Chairman; Dr. D. T. Martin, Dr. M. H. Foster, Dr. J. Q. Graves and Dr. J. K. Griffith.

Hospitals: Dr. J. T. Nix, Chairman; Dr. A. J. Comeaux, Dr. O. P. Daly, Dr. J. L. Scales and Dr. J. E. Walsworth.

Delegate to the American Medical Association 1940 and 1941: Dr. J. Q. Graves, Monroe.

Alternate to Delegate to American Medical Association 1940 and 1941: Dr. J. B. Vaughan, Monroe.

Alternate to Delegate to American Medical Association 1939 and 1940: Dr. Cassius L. Peacock, New Orleans.

Chairman of House of Delegates: Dr. King Rand, Alexandria.

Vice-Chairman of House of Delegates: Dr. Val Fuchs, New Orleans.

Invitation to hold the 1940 meeting in New Orleans was accepted.

Respectfully submitted,
P. T. Talbot, M. D.,
Secretary-Treasurer.

REPORT OF COMMITTEE ON MEDICAL DEFENSE

The Committee on Medical Defense wishes to report that there have been three cases submitted for defense since the time of the report made to the 1938 meeting of the House of Delegates.

The first was a threatened suit against a member residing in New Orleans. The material in this case, received in November, 1938, after being reviewed by the Committee was presented to our attorney who advised us in December that he had filed, within proper legal delays, exceptions and if these were determined adversely to the doctor, he would then file an answer. Up to date there has been no need for further action in this case.

In February, 1939, the Committee received, from the Rapides Parish Medical Society, a request that one of their members be defended in connection with a pending suit. The facts in this case were reviewed by the Committee and we were of the opinion that the doctor in question should receive defense and the attorney was notified accordingly.

The third case submitted for consideration and defense was received in March of this year, wherein it was stated that a member of the society from Bogalusa desired defense. The material, as submitted, has been reviewed by the members of the Committee; it is our opinion that this doctor is entitled to defense and we have so advised our attorney.

Attached to the original report is a financial report of the Medical Defense Savings Account for 1938 and also a list of the securities held in the Trust Department of the Whitney National Bank for the Medical Defense Fund, as of December 31, 1938.

Respectfully submitted,
S. Chaillé Jamison, M. D.,
Chairman.

REPORT OF COMMITTEE ON RESOLUTIONS

The Committee on Resolutions feels that the 1939 meeting of the State Medical Society has been a most successful one and that this has been due in large measure to the splendid cooperation and assistance by the following to whom we wish to express our sincere thanks and appreciation:

The Hotel Bentley, management and personnel, for use of the entire facilities of the hotel and generous contribution of the lobby and meeting rooms, all without charge.

Mr. Coleman J. Hudson, Manager of the Bentley Hotel, and his secretary, Miss Canada, for their suggestions and cooperation.

Honorable V. V. Lamkin, Mayor of Alexandria, and Commissioners Bringhurst and Bradford for donating City Hall Auditorium for meeting of medical section; for the use of the City Park Auditorium for the luncheon, together with preparing tables and other assistance, and detailing policemen for special duty.

Commercial exhibitors for their generous and wholehearted cooperation.

The local Committee on Arrangements for splendid handling of the meeting.

Woman's Auxiliary of the Rapides Parish Medical Society for their cooperation in decorating the meeting rooms, lobby of the hotel and guests' rooms; assisting with entertainment and providing pages.

Merchants of Alexandria for welcome and cooperation.

Advertisers in the annual program.

Girl Scouts of America for pages.

Louisiana College for students to assist at registration desk and in operating lanterns at scientific and open meetings.

Bus drivers of Central Grammar School for cooperation in providing transportation to and from luncheon.

Rapides Packing Company for planning luncheon.

Chamber of Commerce for securing necessary extra rooms for guests.

Reed's Typewriter Exchange for use of typewriters.

Mr. Charlie Moore for loud speakers and sound equipment at the City Hall Auditorium.

The Town Talk for generous contribution of publicity of the meeting and especially to the Editor, Mr. Rollo Jarreau.

The New Orleans papers for contribution of publicity.

Your Committee recommends that a copy of these resolutions be incorporated in the minutes of the meeting, a copy be given to the press, and a copy be given to the New Orleans Medical and Surgical Journal.

Respectfully submitted,

C. L. Peacock, M. D.,
Chairman.
C. P. Rutledge, M. D.
Walter Moss, M. D., (Absent).

PAST PRESIDENTS' DINNER

The past presidents of the Louisiana State Medical Society held their tenth annual dinner at the Bentley Hotel, Alexandria, on Monday, April 24, 1939. The president, Dr. Matas, fourteenth president of the State Society, presided. Dr. R. O. Simmons, veteran surgeon of Alexandria, was the host. All but five of the 23 living presidents answered the roll call of the secretary, Dr. Roy Harrison, namely: R. Matas (1894-95), R. O. Simmons (1911-12), F. J. Mayer (1913-14), Geo. S. Bel (1914-15), J. C. Willis, Sr. (1915-16), Jos. E. Knighton (1921-22), L. J. Williams (1923-24), A. A. Herold (1927-28), L. J. Menville (1928-29), S. C. Barrow (1931-32), R. B. Harrison (1932-33), C. A. Weiss (1933-34), C. Jamison (1934-35), C. P. Gray (1935-36), H. W. Kostmayer (1936-37), C. M. Horton (1937-38), J. A. O'Hara (1938-39), and the president-elect, Clarence Lorio.

Two reprints giving the chronology and history of the Past Presidents' advisory board, created officially on April 16, 1931, were presented to each one of the guests with the compliments of the president, who included his recent Esculapian ex libris as an added souvenir of the occasion. A feeling tribute was paid by the president to the memory of the late Dr. W. H. Seemann, whose absence was indicated by a vacant seat at the table and a beautiful bunch of roses over his plate. A very fitting resolution memorializing all the deceased presidents, submitted by Dr. Fred J. Mayer, of Opelousas, was unanimously adopted as read and ordered spread upon the minutes. Drs. Whyte Glendower Owen, Whitecastle, and R. O. Simmons, Alexandria, were elected respectively first and second vice-presidents.

At the close, the president reminded the company that though this was the fifth meeting held by the State Society in Alexandria since 1887, it was the first annual dinner held in this hospitable city. Rapides Parish, one of the greatest contributors to the organization of the State Society, and one of the largest parishes in its membership, has furnished the Society with six of its presidents, of whom Dr. Simmons is now the only survivor. The others were: Josiah Hale (1849), first president of the first Louisiana State Medical Society, J. P. Davidson (1883-84), C. J. Owens, Eola, (1889-91), Clarence Pierson (1917-18), and E. L. Henry (1919-20). It was likewise in Alexandria, in 1908, that the House of Delegates was created at the suggestion of President Dowling.

The president referred to many events which occurred during President Simmons' administration which had made the meeting over which he presided in New Orleans in 1912 important in the history of the organization by the memorial services dedicated to Dr. Chaillé. Incidentally he noted that Dr. Simmons had performed the first appendectomy in Rapides Parish on April 16, 1896, one of the earliest in the state. Following the laudatory remarks, a toast was drunk to Dr. Simmons, the Nestor of the medical profession in Rapides, pioneer builder in the medical organization of his parish and the state, champion of the highest ideals of the profession, and the beloved of his people; to all of which Dr. Simmons replied with a very eloquent and touching response.

LOUISIANA STATE MEDICAL SOCIETY GOLF TOURNAMENT

	Gross	Net
Dr. A. R. Morgan	82	74
Dr. E. H. Lawson	85	75
Dr. C. B. Odom	86	65
Dr. C. P. Rutledge	87	69
Dr. J. H. Musser	88	73
Dr. P. C. DeVerges	89	69
Dr. Val H. Fuchs	90	77
Dr. Adolph Mangham	91	75
Dr. Leon J. Menville	94	74
Dr. Harry Meyer	96	76
Dr. Chaillé Jamison	97	73
Dr. M. D. Hargrove	98	73
Dr. Jack Strange	98	80
Dr. Allan Eustis	99	77
Dr. W. C. Rivenbark	99	83
Dr. John Elliott	104	80
Dr. J. P. Leake	105	90
Dr. Charles M. Horton	107	82
Dr. E. L. King	110	85

No skeet shoot was held on account of lack of interest.

SIXTH DISTRICT MEDICAL SOCIETY

At the annual meeting of the Sixth District Medical Society held at Our Lady of the Lake Sanitarium, Baton Rouge, on Thursday, April 13, the following resolution was adopted:

Dr. W. H. Brent
Dr. J. W. McGehee
Dr. R. C. Kemp
Dr. J. B. Sewell
Dr. W. D. Wall

Whereas, God in wisdom has removed from the Medical Fraternity the above named doctors, members of the Sixth District Medical Society, whose presence will be missed and mourned by its members, and

Whereas, The doctors were an inspiration and guide to its members, always wisely and diligently working for the advancement of medicine and willingly and cheerfully giving much of their time to relieve the ills and physical sufferings of mankind. Their interest in scientific medicine never waned during the many years they were privileged to practice their chosen profession;

Therefore, be it Resolved, That this society extend to their bereaved widows and families our deepest and sincerest expression of sympathy in the death of the above named doctors, who were members of the Sixth District Medical Society, and

Be it further Resolved, That a copy of this resolution be sent to each widow, and a copy spread upon the minutes of the Sixth District Medical Society.

E. M. Robards, M. D., Sec.

OUACHITA PARISH MEDICAL SOCIETY

The regular monthly meeting was called to order on May 4 at 7:30 p. m. by Dr. John Pracher, president.

The scientific program was as follows: The first paper entitled "Postoperative Thrombophlebitis" was read by Dr. George W. Wright. Discussion ensued by Drs. Wood, Gray, Sr., Vaughan and Pracher. The second paper was on "Treatment of Foreign Bodies in the Eye." Discussion was opened by Dr. Titche.

A motion was made by Dr. Gray, Sr., that the society entertain the auxiliary on May 24, that the society should furnish the entertainment, and that all details should be left in the hands of the Entertainment Committee. Motion was seconded and carried.

Dr. Pracher appointed the following committee to conduct the A. M. A. Survey: Drs. Titche, Wood and Flinn.

Application for membership was received from Dr. Wood H. Scott and was referred through the usual channels.

L. L. Titche, M. D., Sec.

LOUISIANA GASTROENTEROLOGICAL SOCIETY

The Louisiana Chapter of the National Gastroenterological Association held a joint meeting with the Marine Hospital Staff on Thursday, March 23, 1939.

The program was excellent, headed by Dr. Julius Bauer, whose subject was "Gastric Ulcer," which he considers a biologic inferiority of the gastrointestinal tract, follows Mendelian recessive characteristics, and constitutional traits. Charts showing hereditary tendency of peptic ulcer were complete and exhaustive in their demonstration of familial susceptibilities. If both parents are healthy, 11 per cent of the offspring may show peptic ulcer; if one parent suffers from ulcer, 25 per cent of the offspring suffer. Families of ulcer patients are all subject to gastrointestinal disorders, which may be a simple neurosis, ulcer or carcinoma. Neoplastic tendencies also play a part. Further proof was shown by the chart that, if an ulcer patient is from a cancer family and is not cured, he suffers a possibility of cancer to a marked degree. Interesting discussion was headed by Dr. Musser, followed by Drs. Browne, Perret and Pasternak.

"Surgical Aspects of Ulcerative Colitis" was the next paper, and was read by Dr. Alton Ochsner, who stressed especially the surgical treatment which heretofore could be considered mostly failures, except for the relief of massive hemorrhage, cicatrization or perforation, and then the results are as a rule discouraging. The mortality is excessive because the cases are surgical derelicts, so to speak, seeking surgery as a last resort. The etiology of the disease is hazy, with pathology starting in different parts of the bowel, and persistent recurrence after removal of considerable portions increases the difficulty of standard procedures. Short circuiting, ileocolostomy, to total colectomy in selected cases, and three stage operations were reviewed, preceded by a careful preoperative schedule of water balance maintenance, transfusions, implantations of *Bacillus acidophilus* and other means to influence the intestinal flora.

Dr. Perret reviewed the history of a patient who after a stormy surgical routine apparently recovered and continues well. Further discussion by Drs. Metz, Browne and Fasting brought out the fact that since organized research has been done, the subject is still a medical blank: The etiology may be digestive, bacterial, virus, vitamin or allergic; additional use of sera, vaccines, neoprontosil is recommended to complete the therapeutic armamentarium, for surgery has little to offer.

Dr. Isidore Cohn spoke of some of his reflections on "Surgery of the Gallbladder and Biliary Tract," and, after years of extensive work in this field, concludes that calcium salts are not recommended for jaundiced patients; the surgeon should be expertly acquainted with the anatomy and variations of the tract; cholecystitis is common in all adults, even 25 to 50 per cent will have stones, numerous of which are silent; biliary disease has an effect on surrounding organs; there are changes in the metabolic and detoxicating powers of the liver.

The diagnosis is usually made by intermittent pain in the right hypochondrium, digestive disturbances, jaundice, which of course must be differentiated from hemolytic jaundice. Painless jaundice must not necessarily be considered as carcinoma. Surgery is not recommended for every case of acute cholecystitis, though the acute attack is usually an acute manifestation of a chronic pathologic process; during periods of quiescence the best end results are accomplished; prolonged medical treatment is not beneficial either.

Dr. W. L. Smith of the Marine Hospital Staff cited cases with undemonstrable pathology, but with clinical pictures of gallbladder disease; functional disorders such as slow emptying gallbladders, and discoursed on extrinsic interference such as gastric ulcers, spastic colon, pancreatitis, either preceding gallbladder pathology or succeeding it, influenced by diseased bile resulting from infection or other disorders. Possible biliary dyskinesia, spasm of sphincter of Oddi, atonic gallbladders, and external interference with bile flow can be hypothesized when we are confronted with any gallbladder disturbance.

Corrective measures should begin with an intensive study of the patient himself, as most cases are overweight and digestive disturbances a great factor; surgery is recommended if acute, and preoperative treatment if chronic. Poor operative risks are candidates for medical treatment only; silent stones should be removed after proper preparation. All chronic gallbladders should be removed or drained as all are potential cases of pancreatitis. Dr. Bauer in closing stressed the study of the patient, his personality, nervous manifestations and all factors intimately connected before surgery, and a better understanding of silent gall stones, which though not always considered surgical, may be present for years, then suddenly give trouble directly traceable, or vague complaints not traceable to other sources.

P. L. Querens, M. D., Sec.

NEWS ITEMS

The regular monthly meeting of the Medical Staff of Touro Infirmary was held Wednesday, May 10, at 8 p. m. The first order of business was a clinico-pathologic conference by Dr. John A. Lanford. Following this, Dr. I. M. Gage gave a case report on Arteriovenous Aneurysm with Pseudo-arterial Aneurysm of Femoral Vessels. The last communication of the evening was that of Dr. M. C. Wilensky on Sight Saving Measures, with the presentation of a case.

A two weeks course in electrocardiography is being offered at the Michael Reese Hospital in Chicago, August 21—September 2, 1939, by Dr. Louis N. Katz.

Dr. W. A. Bastedo, President of the United States Pharmacopeial Convention has issued a call for the Convention for the Revision of the Pharmacopeia of the United States of America to meet in Washington, D. C., on May 14, 1940.

Scientific sessions of the fourth annual convention of the National Gastroenterological Association will be held June 1 and 2 at the Squibb Hall in New York City.

Preliminary programs of the Section on Public Health and the Section on Medicine of the coming Congress on Obstetrics and Gynecology, meeting in Cleveland September 11-15, have been issued.

At the meeting of the Louisiana State Pediatric Society in Alexandria, Louisiana, on April 24, 1939 the following officers were elected for the ensuing year: Dr. Philip C. DeVerges, president; Dr. Ralph Talbot, vice-president; Dr. W. C. Rivenbark, Secretary-treasurer.

Vanderbilt University Medical School announces a graduate course in internal medicine which will extend over a period of one year available to those who have completed an internship. The tuition fee will be $300. Three fellowships are also available in this course.

The American Public Health Association has recently adopted five reports dealing with Educational Qualifications of Public Health Statisticians, School Health Educators, Public Health Engineers, Sanitarians, and Sub-professional Field Personnel in Sanitation. These reports are distributed free of charge in the hope that they will serve a useful purpose in raising the educational standards of professional public health personnel. Copies may be secured from the Book Review Service, American Public Health Association, 50 West 59 Street, New York City.

The first American Congress on Obstetrics and Gynecology is to be held in Cleveland, Ohio from September 11-15, 1939. This important meeting comes at a crucial time in American medicine. The problems associated with human reproduction have become of paramount importance, arousing the intense interest of the public and profession. This meeting will provide the first opportunity for all the interested groups of workers to assemble together. Doctors, nurses, hospital administrators and public health workers will meet and discuss their mutual problems and correlate their many ideas. A large and representative attendance is necessary to assure the success of this meeting. Already more than 1400 advance registrations have been received.

The twenty-fourth annual meeting of the American Association of Industrial Physicians and Surgeons with the American Conference on Occupational Diseases and Industrial Hygiene will be held at the Hotel Statler, Cleveland, Ohio, June 5, 1939. A program of timely interest and importance will be presented by speakers of outstanding experience in all of the medical and engineering problems involved in industrial health. A cordial invitation is extended to all whose interests bring them in contact with these problems. Further information may be obtained from A. G. Park, Convention Manager, 540 North Michigan Avenue, Chicago.

The sixty-third annual convention of the American Association on Mental Defect was held at the Palmer House in Chicago, from May 3-6 inclusive.

Dr. W. Marvyn Johnson, of Monroe, was recently elected president of the Louisiana State Ophthalmological and Otolaryngological Medical Society.

Among the members of the State Medical Society attending the recent meeting of the American Medical Association in St. Louis were: Drs. P. D. Abramson, W. H. Browning, H. G. F. Edwards, F. G. Ellis, C. R. Gowen, M. D. Hargrove, J. A. Hendrick, A. A. Herold, C. L. LaRue, W. R. Mathews, T. M. Oxford, C. P. Rutledge, J. R. Stamper, C. H. Webb, all of Shreveport; F. C. Bennett and J. Q. Graves, Monroe; B. E. Spencer and V. E. McMains, Sterlington; M. R. Green, J. B. Harris, J. H. Wells, S. L. White, Ruston; L. A. Hebert and G. C. McKinney, Lake Charles; J. J. Ayo, Jackson; T. A. Dekle, Jonesboro; Charles Sentell, Minden; J. L. Danos, Thibodaux; Rhett G. Korniker, Ponchatoula; B. B. Lane, Jr., Zachary; John Pugh, Cotton Valley; T. B. White, Plain Dealing. New Orleans' physicians in attendance at the meeting are listed in the transactions of the Orleans Parish Medical Society.

SOUTHERN BAPTIST HOSPITAL

The regular monthly meeting of the Clinical Staff of the Southern Baptist Hospital was held Tuesday, May 23, in the Staff Room of the Hospital at 8:00 p. m. The following interesting program was presented: "Dehydration Therapy of Pneumonia" by Dr. L. C. Chamberlain; "Serum Treatment of Pneumonia" by Dr. Sam Hobson; "Sulfapyridine in the Treatment of Pneumonia" by Dr. P. H. Jones.

INFECTIOUS DISEASES IN LOUISIANA

Dr. J. A. O'Hara, epidemiologist for the State of Louisiana, has furnished us with the weekly morbidity reports for the state, which contain the following information: For the week ending April 22, the sixteenth week of the year, there were listed 206 cases of measles, 156 of syphilis, 119 of hookworm, 46 of pneumonia, 42 of pulmonary tuberculosis, 36 of whooping cough, 34 of chickenpox, 21 of gonorrhea, 16 each of scarlet fever and cancer, 15 of influenza, 13 of typhoid fever and 11 of diphtheria. For the following week, measles, with 141 cases, again led the list of reported diseases, with the following reported in numbers greater than ten: 136 cases of syphilis, 48 of pneumonia, 38 of gonorrhea, 28 of pulmonary tuberculosis, 23 of whooping cough, 21 each of cancer and influenza, 20 of scarlet fever, 13 of typhoid fever and 10 of chickenpox. One case of poliomyelitis was reported in Orleans Parish. Six cases of tularemia were listed, 2 each from Red River and Tensas, and one each from Bienville and Livingston. For the week ending May 6, there was an enormous increase in syphilis, which jumped to 355 cases all told. Following in order of frequency were 92 cases of measles, 47 of pneumonia, 30 of influenza, 25 of pulmonary tuberculosis, 20 of cancer, 19 of chickenpox and 13 of malaria. Of the unusual infectious diseases, one case of tularemia was reported in DeSoto and one case of undulant fever in Orleans Parish. For the week ending May 13, 173 cases of syphilis were listed, followed by 89 of hookworm, 67 of measles, 49 of pneumonia, 36 of pulmonary tuberculosis, 20 of cancer, 19 of gonorrhea, 16 of malaria, 12 of typhoid fever and 10 each of whooping cough and scarlet fever. One case of poliomyelitis was reported from Claiborne and one case of typhus fever from Ascension Parish.

HEALTH OF NEW ORLEANS

The Department of Commerce, Bureau of the Census, reports that for the week ending April 15, there were 137 deaths in the City of New Orleans, of which 85 were in the white and 52 in the negro population. These were very much the same figures as those for the previous week. For the next week there was not much change, 140 deaths being reported, of which 83 were white and 57 negro. Thirteen of the deaths were in children under one year of age. For the week ending April 29, the number of deaths was almost the same as for the week previous and the distribution was almost the same as for that particular week. This week there were 9 nine deaths among small babies. The week that came to a close on May 6 was quite salubrious to the health of the people of New Orleans, only 67 white persons and 49 negroes died. In this week there were 11 deaths in children, 5 white and 6 negro.

WOMAN'S AUXILIARY

Louisiana State Medical Society

President—Mrs S. M. Blackshear, New Orleans.

President-elect—Mrs. Roy Carl Young, Covington.

First Vice-President—Mrs. H. O. Barker, Alexandria.

Second Vice-President—Mrs. C. U. Johnson, Monroe.

Third Vice-President—Mrs. W. P. Bordelon, Lake Charles.

Fourth Vice-President—Mrs. T. E. Strain, Shreveport.

Treasurer—Mrs. W. R. Buffington, New Orleans.

Recording Secretary—Mrs. E. C. Melton, Plaquemine.

Corresponding Secretary—Mrs. C. R. Hume, New Orleans.

Parliamentarian—Mrs. A. A. Herold, Shreveport.

Historian—Mrs. Joseph Bath, Natchitoches.

CONVENTION NEWS

We have here, the report of Mrs. S. Chaillé Jamison, delegate to the State Convention, which was read at the last Orleans Parish Auxiliary meeting. This gives us an excellent picture of the convention, and we are grateful to Mrs. Jamison for her report.

Alexandria, a city new in entertaining the Louisiana State Medical Society, prepared as delightful a program of interesting things to see and do as it has ever been my good fortune to enjoy.

Though it was the first year of an organized auxiliary in Rapides Parish, their maiden effort was a complete success, as I am sure all who attended the meeting will agree. A diversified program of amusements kept us busy each day. We began on Monday afternoon, April 24, with a sightseeing trip over the city and a tour to two lovely gardens, one to "Nosegays", the home of Dr. and Mrs. Fayette Ewing, and the other to the home of Dr. and Mrs. King Rand, where we were entertained at tea. The flowers all over the city were lovely and I am sure most of the decorations used came from the beautiful gardens of our hostesses. So much for Monday.

Tuesday morning we started out with a well attended meeting of the Executive Board of the Woman's Auxiliary, over which Mrs. Ellis, the state president, presided. This meeting was followed by a barbecue at City Park at noon, and a tea at 3:00 p. m. at the residence of Dr. and Mrs. S. J. Phillips on the grounds of the Central Louisiana Hospital at Pineville. That night there was a large banquet in the Venetian Room of the Hotel Bentley, at which the president-elect assumed his duties for the year. This banquet was followed by a dance.

Wednesday morning was devoted to the general meeting of the Auxiliary; sixty-nine members were present. Many interesting reports of auxiliary activities were given, to me the outstanding one being that of the Chairman of Registration, who reported that out of nineteen auxiliaries in the state, members from eighteen registered. At this meeting, the president-elect, Mrs. Blackshear, was inducted into office. A luncheon followed in the Mirror Room of the Hotel Bentley.

Too much cannot be said in praise of the members of one of the newest auxiliaries in the state, who planned and worked together to give us such a pleasant program of entertainment during our sojourn in their hospitable city.

Respectfully submitted,
Mrs. S. Chaillé Jamison,
Delegate from Orleans Parish.

PRESIDENT'S MESSAGE

Dear Auxiliary Members:

It was a great pleasure to renew old friendships and make new friends at the State Medical Society meeting in Alexandria, and it is my hope and plan to contact all the members personally when I visit the various auxiliaries throughout the coming year.

At the State Convention, where we were so beautifully entertained by the Woman's Auxiliary to the Rapides Medical Society, there was a registration of 171, with eighteen out of nineteen auxiliaries represented. The parishes organized are as follows: Avoyelles, Caddo, Calcasieu, Iberville, Jefferson Davis, Lafayette, Natchitoches, Orleans, Ouachita, Rapides, Sabine, Second District, St. Landry, St. Mary, St. Tammany, Tangipahoa, Terrebonne, Vermilion, and Washington. With your help and cooperation let us make Louisiana 100 per cent Auxiliary!

Louisiana had a full representation at the recent meeting of the Woman's Auxiliary to the American Medical Association, in St. Louis, those present being National Board members, Mrs. A. A. Herold of Shreveport, Chairman of Legislation, and myself as President of Louisiana State Auxiliary. The delegates were Mrs. Paul D. Abramson and Mrs. Frederick G. Ellis of Shreveport, Mrs. W. R. Buffington and Mrs. A. L. Levin of New Orleans, and Mrs. W. A. Smith of Monroe; the alternates were Mrs. C. R. Gowen and Mrs. Clifford P. Rutledge of Shreveport. Mrs. J. Q. Graves of Monroe, Mrs. Wilkes A. Knolle of New Orleans, and Mrs. R. G. Korniker of Ponchatoula, members of the Louisiana group, were in attendance.

The good fellowship and enthusiasm that prevailed at the National Convention was inspiring, and it is my hope that we may live up to the high ideals and achievements of this great organization.

Mrs. S. M. Blackshear,
President.

Respectfully submitted,

Mrs. Edgar Burns,
Press and Publicity Chairman.

BOOK REVIEWS

Plastic Surgery: By Arthur Joseph Barsky, M. D., D. D. S. New York, W. B. Saunders Company, 1938. Pp. 355. Price $5.75.

As the author states in the opening sentence of the preface: "This book is a clinical evaluation of methods, not merely a theoretical discussion."

It is essentially a practical treatise on plastic surgery. Surprisingly complete for a book of its small size, it gives in clear, concise and lucid form the operative approach and methods which have proved most satisfactory in the hands of the author and his colleagues. He draws generously on the experiences of others and does not endeavor to force his own views.

Freely and adequately illustrated it covers not only the principles and technical application, but also the indications for plastic repair.

The various tissues employed in the correction of defects are dealt with in impressive style and their manner of transplantation is well described.

Following these general considerations is the classification of chapters into various sections of the body and their relation to plastic surgery.

In a special field which is fast coming into its own, this excellent book serves a useful and timely need. It is the most complete as well as the most composite of the very small number of publications on plastic surgery in general and will find itself in demand by both the plastic surgeon and the general surgeon. An exhaustive bibliography adds to the importance of the book.

For the purpose for which it is intended it is unhesitatingly recommended.

Waldemar R. Metz, M. D.

The Treatment of Fractures: By Charles Locke Scudder, A. B., Ph. B., M. D., F. A. C. S. Philadelphia, W. B. Saunders, 1938. Pp. 1208. Price $12.00.

This is the eleventh edition of a very popular book on fractures. The first edition appeared in 1900 and a comparison of the present edition with the first one available to the reviewer, namely the fourth edition which was published in 1903, shows the remarkable advances in the treatment of fractures during the present century. As a matter of fact, as indicated by Scudder's fourth edition, the treatment of fractures at the early part of this century was in reality very crude. Insecure board splints were frequently used at that time and reduction by skeletal traction then was unknown. Fractures of the hip and thigh were treated with Buck's extension and accessory board splinting.

The eleventh edition of "Treatment of Fractures" by Scudder is a very different type of textbook from the early editions. It is beautifully illustrated. Numerous operative methods are discussed which were seldom or never undertaken in the first part of this century. Consideration of complicated head injuries and of the complications of such fractures as those of the thorax has expanded the field in this volume to include the management of all severe trauma.

It is surprising that the author still retains some illustrations and discussions of methods which are now obsolete; for example, calipers for skeletal traction on the femur and Buck's extension. In addition, however, he does include the modern methods of treatment, e.g., Russell's treatment for fractures of the shaft of the femur is discussed and the Moore method of pinning is illustrated.

This is one of the most satisfactory of all texts on fractures, and the student or practitioner interested in the subject could not make a mistake in studying this splendid book.

HOWARD MAHORNER, M. D.

An Introductory Guide to Biochemistry: By Sidney Bliss, Ph. D. Philadelphia, W. B. Saunders Co., 1939. Pp. 103. Price $1.25.

This little volume fills a long felt need for bridging the gap between the so-called pure sciences and the apparently more complex medical sciences.

The book comprises thirteen short chapters, completed in sixty-seven pages of interesting reading, dealing with all phases of biochemical processes. The author has studiously avoided the use of structural chemical formulae, which so often constitute a mental hazard to the uninitiated attempting to explore the fascinating field of physiologic chemistry. There has been no attempt to make the book complete from the standpoint of minute detail, but it does contain an adequate amount of detail to render the successive steps in body metabolism clear and logical. Its simplicity contributes to its forcefulness. It should find its place not only with the medical student embarking on the study of fundamental chemical processes which take place in the body tissues, but should appeal in large measure to the layman without benefit of an intensive training in chemistry and physiology, who is interested in learning something of the mechanism of body processes.

SAMUEL B. NADLER, M. D.

Sickness Insurance in Europe: By J. G. Crownhart. Madison, Wis., J. G. Crownhart, 1939. Pp. 134. Price $1.00.

This book contains interesting data with reference to sickness insurance in Europe. Because of the changes which are taking place in American medicine today, it should prove of unusual interest to the physician of this country.

Sickness insurance involves a combination of three services: first, the use of the principle of insurance to purchase protection; secondly, the fact that sickness comes in every life, but is unpredictable as to its extent or relative costs; thirdly, the services of a highly skilled medical profession.

The fifty years of experience in Europe with reference to compulsory health insurance has been unsatisfactory. This form of insurance involves not only supervision but state management.

Its concept has been in the field of labor legislation. Its coverage has been for the great mass of the population abroad in the very low income classifications. Its success in meeting problems of economic insecurity basically rests upon the possibility of including all persons of low income in its scope. The rights to benefits of the legislation arise out of the tax payment of the individuals covered. The government must collect the tax revenues, disburse the money, and employ people for its administration.

Sickness insurance departs from normal insurance experience. The risk is not easily defined. The emphasis cannot be placed on means to encourage the policy holder not to make claims. There can be no certainty that the premium is adequate or will remain so. The demand for service is influenced by many related factors, and is not susceptible to actuarial computation. The effort of the government is always directed toward confining the service in order that its cost may fall within the limits of the money raised.

What do we insure against? Most of the very serious administrative problems arise from the basic fact that good health and sickness are not susceptible to an exact definition by law and regulation. If the state of good health could be defined, then we would have a foundation upon which we could state that when deviation occurs we have sickness. Actually, good health is very difficult to define. One of the marvels of science is how far a man can deviate from principles of presumed right living and yet not be aware of ill health.

The fact remains that insurance against sickness presents technically important problems differing radically from other forms of insurance protection. Insurance of itself does not provide any more service than that which the insured, through their individual tax premiums, raise money to purchase.

WARREN H. HÉBERT, M. D.

PUBLICATIONS RECEIVED

Paul B. Hoeber, Inc., New York City: End Results in the Treatment of Gastric Cancer by Edward M. Livingston, B.Sc., M.D., and George T. Pack, B.Sc., M.D., F.A.C.S. Manual of Toxicology by Forrest Ramon Davison, M.B., M.Sc., Ph.D.

Insurance Statistical Service of North America, Chicago, Illinois: Standard Bodyparts Adjustment Guide.

Lea & Febiger, Philadelphia: Hypertension and Nephritis by Arthur M. Fishberg, M.D. Clinical Pathological Gynecology by J. Thornwell Witherspoon, M.A. (Oxon); M.D. (Johns Hopkins).

Public Relations Bureau of the Medical Society of the State of New York, New York City: What It Means to Be a Doctor by Dwight Anderson.

Charles C. Thomas, Springfield and Baltimore: Out of the Running by G. Gertrude Hoopes.

Williams & Wilkins Company, Baltimore: Sex and Internal Secretions edited by Edgar Allen. The Genuine Works of Hippocrates translated from the Greek by Francis Adams, LL.D., Surgeon. Clinical Studies in Psychopathology by Henry V. Dicks, M.A., M.D. (Cantab.), M.R.C.P. (Lond.). Preclinical Medicine by Malford W. Thewlis, M.D.

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